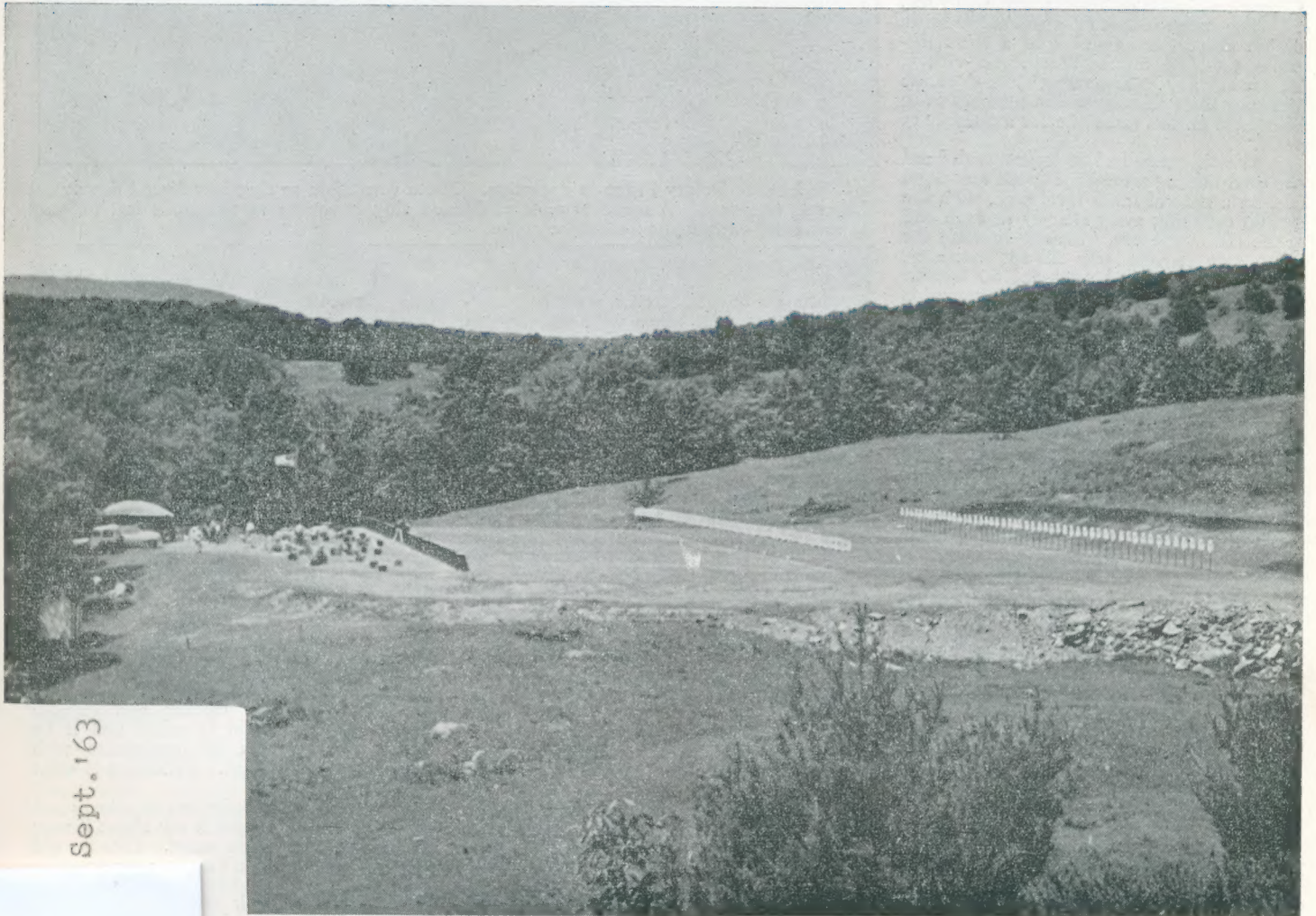


Precision SHOOTING

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Sept. '63

a magazine for Shooters by Shooters

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THE COVER PHOTO

An over-all view of the new 50 target pistol range of the Woodstock Rifle and Pistol Club, where the 1963 Vermont State Championship Pistol Tournament was fired.

The range is located a few miles south of Woodstock, on a hill road a short distance west of South Woodstock village. This is actually a "re-newing" job, since the Vermont State Championship matches have been held on this same site for a number of years.

The old range had 36 targets with hand operated turning targets for timed and rapid fire, on a natural fairly level area, with the ground dropping away sharply at each end of the old target line. Exactly leveling the range area provided the fill for extending the target line for the present 50 targets. The rubble in the lower right foreground is boulders removed in the grading operations. In the lower left foreground are other boulders in their natural setting. The parking area is on a lower level beyond the competitor area behind the firing line.

The present turning targets are electrically operated and timed, with the controls for this and the PA system located on the base of the flag pole. The target turning mechanism is placed below ground level—out of the way and safe. The 50 yard stationary targets are on staffs fitted into sockets buried in the ground, and they are simply lifted out and laid flat during timed and rapid firing.

The pavilion type tent at the left of the competitor area is used for the statistical work. At the firing line are new, neat and sturdy two-competitor benches with space to pass between all adjacent benches. All of the above-ground range equipment can be and is removed and stored when not in use for matches. The only permanent buildings on the range are a small lunch concession building just beyond the statistical tent, and the toilet building in the near-left of the photo. And incidentally, those toilets are kept clean and as fresh as it is possible to keep such facilities.

The Woodstock Rifle and Pistol Club deserve being commended for providing this fine range, quite centrally located in the State, and both the Club and the State of Vermont have every reason to be proud of it.

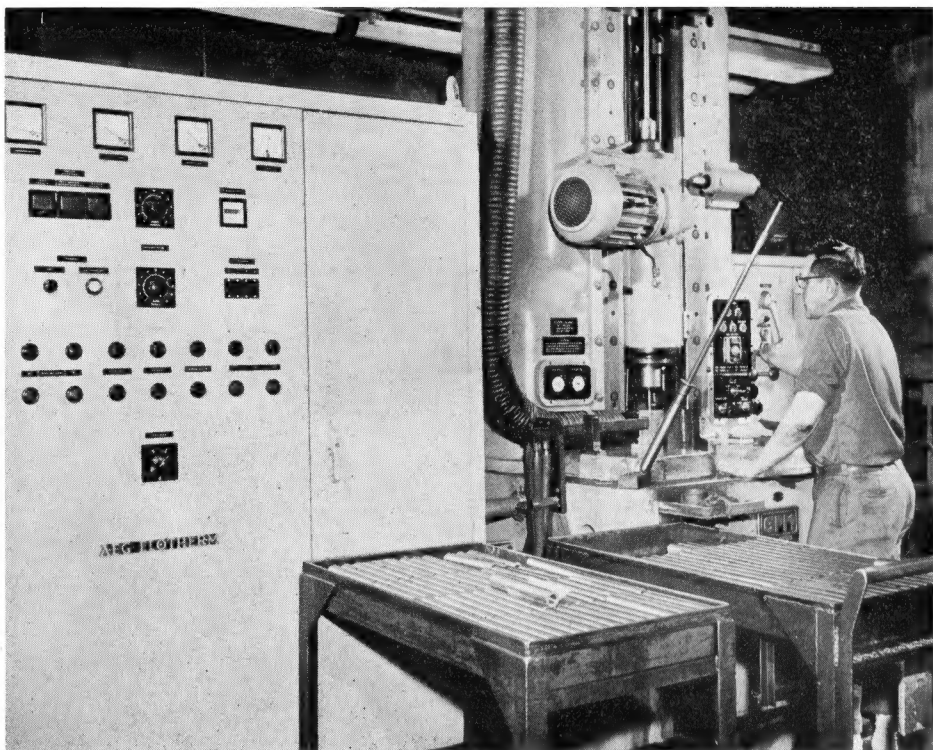
P. H. T.

HAMMERED SHOTGUN BARRELS

While shotgun barrels may be a bit foreign to Precision Shooters, we believe Ithaca's new process of making barrels in their Roto-Forge machine is of interest to any gun-minded person. The photo shows what the machine looks like and the following quote from the press release describes it:

"Engineers working with Ithaca experts designed and built this machine specifically tailored to shotgun barrel production. As far as can be determined, the Ithaca Roto-Forge is the only one of its kind in the United States.

"The Ithaca Roto-Forge employs four



Ithaca's Rotary Forge in operation. Photo was taken as slug was forced downward between hammers. A mandrel with positioned slug is shown at operator's left (leaning toward him) awaiting next machine cycle.

hammers roughly the size of a small old-fashioned flat iron. These hammers striking with a force of 132 tons, work in a horizontal and circular plane with the shotgun barrel passing down through the center of this circle. A tubular billet cut from raw stock is positioned over a mandrel that is held by a vertical chuck. The billet is first heated by an induction coil and then is slowly lowered between the hammers. The hammers forge the billet to the required length and taper. The contour shape is controlled by a cam which is linked to the hammers and is essentially a master pattern tracer.

"When the barrel is withdrawn from the machine, it has roughly the appearance of the bell shaped gun barrel of our Pilgrim fore-fathers. This bell shaped end, or the 'Tulip' as plant superintendent Al Stevens calls it, is the top portion of the slug. This 'Tulip' is cut off and does not come in contact with the hammers. The entire barrel length appears to have been blued (from the heating) and is covered with a diamond shaped pattern (hammer blows) that resemble the steel non-skid surfaces used in factories.

"The complete machine cycle is automatic. The operator is required to manually insert the raw stock slug and mandrel into the chuck and to remove the barrel blank at the end of the cycle. The mandrel is withdrawn from the barrel hydraulically. Hydraulic pressure is also used to raise and lower the chuck when in operation."

P. H. T.

REGARDING YAMA WOOD RIFLE STOCKS

By Phil Teachout, Editor

Late in May, Mr. Richard Longarini, distributor of Yama wood rifle stocks, wrote us regarding the unsatisfactory experience with a Yama wood stock, reported by Warren Wright of London, Ontario in the February 1963 issue. Mr. Wright's reported experience had rather surprised me, since it is the only such report we have seen or heard. Following are some quoted excerpts from Mr. Longarini's letter:

"... Upon a search of my files I found that the only blank ever shipped to that city (London, Ont.) went to YE OLD GUN SHOP, 43 Dundras St. W.; shipping

date Oct. 1960.

"Assuming that this was the blank in question, it should be pointed out that there has been some modifications in drying process and testing procedure for the drying process. Many of the first blanks sent out were not dry. The reason for this was the limits of moisture meters. These meters could only check the surface moisture and after some personal difficulties in some of my rush jobs I adopted the weight against cubic displacement, and the scrap dessication process. . . . Once Yama wood is dry it is much more stable than most stock woods."

Mr. Longarini mentioned that Lynn Hunt, who lives in south-central New York State and who is an experienced and very capable bench rest competitor, was very well satisfied with the Yama wood stocks on two of his rifles, and he mentioned that Ed Shilen did the stock work for Mr. Hunt. Since Ed Shilen is widely known as a very excellent riflemaster, stocker and capable bench rest competitor, I asked him if he would comment on his experience with Yama as a stock wood. Following is what he wrote:

"I have only made two gunstocks out of Yama wood, so what I say about it may not be true of all Yama wood. Like the old saying, 'One rose don't make a Summer.'

"Both of these stocks were made for Lynn Hunt of Rock Stream, N. Y., and Lynn purchased the blanks from Richard Longarini. I in turn sent the blanks to Carl Peterson in California to be machine carved to my patterns. If these blanks warped or crawled during the machining operations it wasn't evident as they were both perfectly straight and true when I received them after machining.

"Now as to the characteristics of the wood. Yama wood is definitely lighter than any other gunstock wood that I have ever worked with. A sporter stock made of Yama wood is about 3-4 ounces lighter than an identical stock made of American Walnut. Both of the blanks I worked on were very 'burly,' making it necessary to do almost all of the carving and shaping work with a fine rasp and file. Trying to cut it with a chisel or plane is almost impossible. The wood in-between the burls APPEARED TO BE very soft, just about like a piece of ordinary pine.

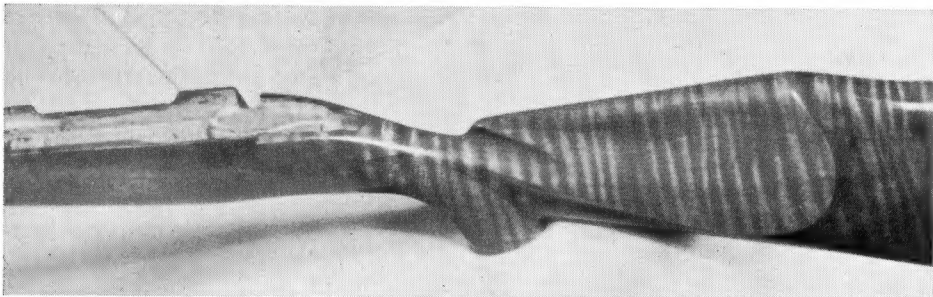
"Regardless of whatever good or bad

characteristics this wood may have, the proof is in the way the wood stands up with age and shooting. BOTH of the Yama stocks have held up extremely well. One of the stocks was finished up 2½ years ago, and the other 1½ years ago. Neither of the stocks has warped and both rifles are still shooting extremely well.

"In order to achieve Benchrest quality accuracy it is necessary to have the action bedded (barrel free floated) as perfect as possible. Any warpage of the stock is immediately noticeable as the rifle will lose its 'gilt edge.' Another problem is wood compression. If the receiver compresses



Showing typical Yama wood figure, as well as it can be shown in black-and-white. The stocks have to be seen in natural finish color to appreciate their beauty.



the wood in one spot more than another, this will upset the bedding and cause a decrease in accuracy. Both Yama stocks have been very good in this respect and have held the bedding very well."

Mr. Longarini very definitely states in his letter: "The most important point to remember, I guarantee satisfaction. Even after the blank has been shaped I will always make it good if it is not right." (Editor's note: This I would take to mean if anything was not right with the wood, but not if a blank might simply be botched up by sloppy, poor workmanship in trying to shape and fit it.)

Mr. Longarini sent a 7½" X 3½" X ¾" sample of the Yama wood for examination. This sample certainly does have an unusual and exotic figure. Rapping the polished surface of the wood sharply against the corner of a handy-by loading press made shallow dents that could be felt but one had to look closely to see them. It would seem that the wood would not likely be very noticeably marred in ordinary use of a fine rifle stock. I rather pride myself on carrying a quality jack knife, kept well sharpened, but I couldn't make a smooth cut in the Yama wood with my knife, even a very light cut—the knife edge would jump from hard spot to hard spot to leave a hump-and-hollow cut surface. From just that rude test I can understand how a novice first experience at working Yama wood might be quite exasperating.

In a later letter, Mr. Longarini advises that he now has a brand new Oliver 8 spindle heavy duty carving machine with which he can duplicate any gun stock shape or inletting to the most exacting tolerances.

In somewhat unrelated comment on a paragraph in Roy Dunlap's THE SHOP in April 1963 issue, Mr. Longarini writes: "I fear this Electric Kiln he speaks of is a

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COMING MATCHES

(We will list place, date, type and title of match, name of sponsoring organization, name and address of contact person, at a nominal flat rate of \$2.00 per insertion, prepaid with insertion order. Insertion orders must reach the Precision SHOOTING office, 64 Depot Street, Lyndonville, Vt., at least 45 days before date of match for single insertion orders. For multiple insertions, 30 days additional must be allowed for each additional insertion desired.)

Thomaston, Conn.: July 28, Wigwam 100 Yard High Power Match, Wigwam Range, Conn. #109, Thomaston, Conn. For programs and information write or call the Secretary, Gerald Kinzly, Guernseytown Road, Watertown, Conn., or the Executive Officer, Judson S. Darrow, Woodbury, Conn.

Albany, New York: Troop 36 Third Annual 1000 Yard Registered Open Tournament. Karner Range, Albany County, N. Y. September 28-29, 1963; ten and twenty shot iron and any sight matches over standard and experimental courses. \$2000.00 contingent prizes; \$125.00 Minimum guaranteed first money. Programs from Dermot C. Reilly, 445 Western Avenue, Albany 3, New York.

Thomaston, Conn.: August 25; Wigwam 2700 Aggregate Pistol Match. Wigwam Range, Conn. #109, Thomaston, Conn.

September 15; Wigwam Clam Bake, Bench Rest Match, Old Fashioned 100 shot Offhand Schuetzen Match, Trap Shoot and Field Day.

For Programs and information write or call the Secretary, Gerald Kinzly, Guernseytown Road, Watertown, Conn. or the Executive Officer, Judson S. Darrow, Woodbury, Conn.

myth. I try to keep abreast of all changes in techniques and after 7 long distance phone calls am certain there is no foundation in fact to this scuttlebutt. Yes, the best walnut is presently going to Italy, Belgium and Spain from near me here in California."

TOURNAMENT CIRCUIT

MAINE STATE PISTOL CHAMPIONSHIPS

The Maine State Pistol Championship tournament, fired on the Blue Hill Rifle and Pistol Club range June 1-2, had a somewhat smaller than usual entry of 54 shooters. While Maine resident shooters outnumbered the out-of-staters this year, it was the XIII USAC shooters from Mass., R. I. and Vt. who dominated the winning, with USAF shooters from Dow Base near Bangor providing the nearest competition.

The Grand aggregate winners were: Richard Flagg, XIII USAC, Warwick, R. I. 2547, Pasquale Melaragno, XIII USAC, Providence, R. I. 2546, Gerald McMahon, XIII USAC, N. Clarendon, Vt. 2531, 1st Master, Bruce Barden, USAF 2526, Hi-Ex, Roland Bell, U. S. Border Patrol 2407, Hi-SS, Harold Roderick, USBP, 2285, Hi-Mks, Bernard Nelson, Rockland, Me. 2211.

Melaragno won the .45 cal. agg. with 845 and Flagg won the center fire agg. with 863 and the .22 agg. with 866.

The XIII USAC team won the .45 match with 1111 over Dow AF Base 1103, and the center fire with 1164 over Dow AF Base 1148. In the .22 match Dow AF

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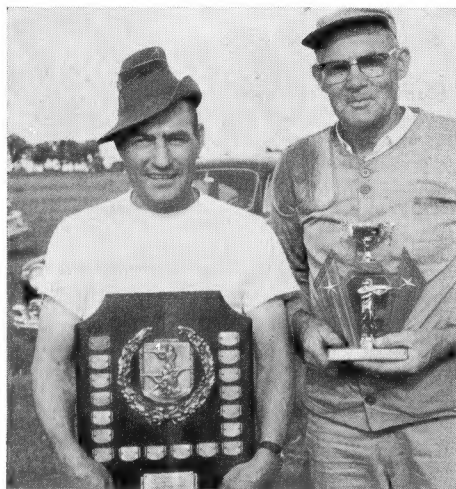
Money back guarantee.

Base turned the tables with 1137 over XIII USAC 1130. Maine State Police held third spot in all three matches.

NORTH DAKOTA STATE HI-POWER RIFLE

Jasper Kleinjan of Bentley, N. D. became the new North Dakota high power rifle champion by firing the top aggregate

(Continued on Page Four)



Jasper Kleinjan (left), North Dakota State Highpower Champion, with S. W. Aitken trophy and Oliver Nygaard, former holder of the trophy.

score of 392 X 400. The S. W. Aitken Trophy was presented to him by the previous champion, Oliver Nygaard of Grand Forks, N. D., who ranked 4th this year with 386. Ed Reiten, Cooperstown, N. D. was runner-up with 391 and Ken Slade, Grand Forks, 3rd with 388.

The 80 shot match, sponsored by the Lake Region Rifle and Pistol Club, Devils Lake, was fired under almost ideal conditions on the Camp Grafton Range with an entry of 74 shooters from North Dakota, South Dakota and Minnesota.

Class winners were: Expert; Carleton Elstad, Devils Lake 383 and Wayne Hervey, Bismarck, N. D. 380. Sharpshooter; W. A. Krveger, Madison, S. D. 375 and D. W. Fairfield, Eldridge, N. D. 373. Marksman; Richard Iverson, Grand Forks 378 and Robert Dybwad, Glenfield, N. D. 368. Hi-Lady award was taken by Dawn Emery, a junior shooter from Valley City, N. D., firing a 358 with an M-1 rifle.

The club team from Grand Forks, N. D. won the four-man team match with a 1497 score and the Cando, N. D. team was second with 1487.

ARIZONA MATCHES

From the July "RICOCHETS," presently a 3 page mimeographed monthly news bulletin of the Phoenix Rod and Gun Club, we learn that the South Pacific States High Power Regional Tournament, fired on the Black Canyon Range at Phoenix May 3-5, had 200 competitors, evenly divided into half Armed Services groups and half civilian and Reserve shooters. A double National Match Course was fired on Saturday with the winner being Sgt. Wm. R. Lee, USA, Fort Benning, Ga. with a 498-58V score. The "Leg" match was fired May 5th with USN Lt. Montelle Knapp firing the winning score of 248-24V.

This quote from the report should be of interest to the "oldsters": "And a most remarkable 100-5V score was made by probably the oldest competitor of the 200, Wm. F. Stewart, who admits to 73 years. He 'cleaned' the sitting-rapid string to win the 2nd Expert Civilian award, and also placed 2nd Ex. Civ. for the rapid fire aggregate with his 195-6V score."

The Arizona State Smallbore Rifle Position Championship was fired at Tucson on May 19th. Dave Cesena won the any sight aggregate with 394 and the championship with 770. May Mickelson won the iron sight aggregate with a 384 and was high woman for the grand with 760. Lt. Col. Joe Decker was high Master in both the iron sight aggregate (382) and the grand (765). Jack Hoke was high Master in the any sight agg. with 383. Victor Elsberry was high Expert in all aggregates, 381 any,

384 iron and 765 championship. Sharpshooter Jack Annala made another class aggregate grand-slam with 383, 377 and 760.

VERMONT STATE PISTOL CHAMPIONSHIPS

A total of 96 shooters competed in the 21st Vermont State Pistol and Revolver Tournament on the newly rebuilt range of the Woodstock Rifle and Pistol Club at South Woodstock June 22nd and 23rd. Nearly half (41) were in the "Service" classification (armed services and police.)

The .45 cal. matches were fired Saturday afternoon, in somewhat windy and showery conditions. Sunday, for the .22 cal. and center fire matches, was bright and sunny with comfortable temperature but with strong, gusty wind all day reaching near gale velocity at times. While top ranking scores fired on Sunday may appear relatively low, they were really excellent for the conditions under which they were fired.



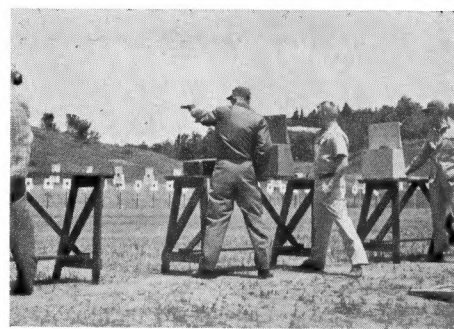
PA System loud-speakers on the flag pole at the re-named pistol range at South Woodstock, Vermont. All electrical controls for range operation are located on the bottom of the pole. That flag was really "snapping" in the near gale velocity wind that plagued competitors in the 1963 Vermont State Championship .22 cal. and center-fire matches on Sunday, June 23rd.

Grand aggregate winner was Demitri T. Stilu, Putnam, Conn. with a 2564 score. He was high Service Master in the .45 cal. aggregate with 849, again high Service Master in the .22 cal. matches with 860, and winner of the center fire aggregate with 855.

Grand aggregate runner-up with a 2549 score was Thomas P. McLennon, Woburn, Mass., who also led his Hanscom Field to runner-up position in the .22 and center fire four-man team matches. He won the .45 cal. aggregate with an 857, was 5th in the .22 and 3rd in the centerfire aggregates.

The XIII USA CORPS made a clean sweep of the four-man team matches (1130 with .45, 1144 with .22 and 1118 with C. F.) and team members were 3rd, 5th and 6th in the grand aggregate. Arthur C. Carr, Farmington, Conn., 3rd with 2540, was runner-up in the center fire agg. with 842. Pasquale Melaragno, Providence, R. I., 5th with 2521, also won the .22 aggregate with an 872. Gerald R. McMahon, North Clarendon, Vt. was 6th with 2513 and took the Vermont Resident Champion award.

Civilian Master Roger B. Pederson, Center Harbor, N. H. was 4th in the grand with 2522.



The well designed, sturdy benches on the firing line of the South Woodstock, Vermont pistol range. "Double-Action" William E. Peterson, a south-paw shooter, is getting off a slow-fire shot with his .38 Special S&W revolver.

Grand aggregate class winners were: Expert, Service, Richard H. Brown, Hanscom Field, Mass. 2485—Civilian, Harvey E. Merrick, Springfield, Vt. 2374. Sharpshooter, Service, William Toughnane, Boxford, Mass. 2336—Civilian, Lawrence W. Brown, Norway, Maine 2322. Marksman, Service, Dalton L. Burrus, Rockland, Maine 2241—Civilian, Albert M. Oglesby, Putney, Vt. 2059.

MORE ABOUT PRIMERS — II

By Edward M. Yard

Experimental Ballistics Associates

I have been bringing you comments about primers and their performance over some period of time. As tests continue, and as I learn more, these additional findings will be reported to you. This is another installment bringing you up to date.

If you remember some earlier comments, I started with a conviction that primers deteriorated with exposure to humidity and any other environmental extreme. Humidity, I thought, was the main cause of primer failure. These tests were undertaken to check the validity of this idea.

We now have some answers in this matter, but not all of them. Extreme humidity, 100%, will cause primers to fail to fire. The pellet becomes so soggy in about two months that it will not ignite. This is preceded by an interval when guns with sluggish striker fall won't fire them, even though a fast lock will.

P. S. for December 1962 carried our report that 35 days of 100% humidity left the Federal 210 primer unimpaired. This is pretty stiff abuse, and 70 days of it proved too much. Ten rounds were loaded for test after this interval, and the first five failed to fire. The other five were retained for further tests, and you'll see what was learned with them.

This is the first positive result:

Continuous exposure to 100% humidity will cause primers to fail. For these tests, primers were stored in a glass jar about one inch above pure water. The lid was sealed, so vapor tension was maximum, the primers exposed to the vapor only (not immersed). In time the priming compound absorbs so much moisture it becomes a paste, soft and plastic, and is incapable of firing.

Can a wet primer be restored?

And a second positive result:

It will recover when dried. Several experiments were made with those dud caps from total humidity exposure. These are the results:

1. The remaining five cartridges of the test batch were placed on the bench (to see if the powder would pick up the excess moisture) for re-test. After sixteen days these cartridges fired about normally.
2. Ten primers from this 100% humidity lot were air dried for 7 days, then baked at 250° for 1½ hour. These gave two miss fires and a variation of 675 F. p. s.

3. Ten others were allowed to dry naturally in the air on the bench (about 50-60% humidity and 70° F). These fired normally, with velocity 70 F. p. s. below new primer results and the spread about 3X normal, but not beyond tolerable limits.

4. Ten primers were baked at 250° F and then stored over dessicant for 7 days. These produced 2 missfires and four hangfires. Amazingly, velocity of the eight shots that fired was about normal and the spread of 213 F. p. s. not a lot beyond tolerable limits.

It would appear that primers dried slowly in the air (3.) recover best. The use of heat seems to impair primer performance. Don't expose your caps to extreme moisture. But if they get soggy, place them in a cool dry place for a week or two. They will probably recover.

After our experimental drying of primers with a baking operation, we had occasion to talk about this with Mr. William N. King, Technical Director of Federal Cartridge Co. He pointed out that we were lucky not to have raised the temperature much further, informing me that primers will pop at about 350° F. Some decomposition may also occur at temperatures approaching this auto ignition point. Our tests showed that when these primers were heated, performance was poorer than when dried otherwise. Since heating might be exciting or dangerous, better not dry them this way. Rely upon slower, gentler, and safer means as suggested.

What about lesser humidities? Will ordinary summer weather be harmful?

For usual amounts of time, we feel the answer is no. Primers that were exposed to CONTINUOUS vapor tensions of 95%, 90%, and 80% for 9 months did not deteriorate. They produced normal velocity when compared with others of the same lot that were stored in as received condition in a sealed glass container, also with those stored over a dessicant similarly sealed. Our test results show a greater

spread in velocity with primers from 95%, 90% and 0% conditions, but we don't feel justified in concluding that this was caused by the storage, because variations recorded are normal. We mention this point primarily because test ammunition prepared for these comparisons usually produces better uniformity, and it is also an observation during these checks that an increase in velocity variations usually precedes any material drop in average velocity when primers do start to decline.

Since very few environments will exceed 95% relative humidity for nine months out of a year, I would feel safe in saying that, in the U. S. A., primers left on the loading bench in a cool place (meaning to rule out excessive heat—note earlier comments) would be unharmed by their exposure to normal humidity of the temperate zone. But remember that tests did show that 100% humidity takes about 2 months to render them useless, so don't needlessly keep your caps in a steamy place.

In the December, 1962, issue of P. S. I gave the details of the test procedures used, but will recap here for present readers. Humidity exposures were established by storing test primers over saturated solutions of salts known to maintain definite values (see Chemistry and Physics Handbook). Primers were withdrawn at stated intervals for testing, and were loaded and fired the same day, assuring uniform conditions for all primers checked. One lot of 3031 powder and one lot of cases has been used throughout. An '03-A3 Springfield .30-'06 rifle was used for all firing, as the most universally known and used. Primers are all Federal 210, shipped fresh directly from the factory in sealed containers for this investigation.

The tables appended give the values as recorded, and may help you to form your own conclusions. Tests will be continued, final results are not yet in sight. These primers will be exposed to various environments for a long time to come. Only by such persistent testing can we learn what happens to our components.

FOLLOW THROUGH

By JESSE M. GRIGG

The tyro pokes the gun at the mark and jerks the trigger, hoping that some freak of luck will guide the bullet to where he wants it to go. He does this owing to lack of guile which only a great amount of hopping and missing will supply. Well meant advice falls on deaf ears because he does not comprehend. Later, maybe weeks or months later, continuing failure finally leaves no choice but to accept a growing suspicion that something is wrong with his method. Then he begins to ask himself why he is missing, and continues to ask until at length a great truth dawns upon him. It is discovery that the sights must be on the mark when the trigger breaks. It is in fact one of the great truths of rifle shooting that he has glimpsed, though little then does he realize how great it is.

But success is still a long way off. He has discovered only the road which leads to it. In fact his troubles, which till now he had none of, are just beginning. He cannot watch the aim and squeeze at the same time. If he attends to the aim the trigger finger will not function. If he concentrates on squeeze, the sight picture gets out of sight, and out of mind. But squeeze he must and does, so that, when the rifle fires, the aim has drifted off. Thus he is still missing, but now is missing in hopeful belief that continued trying will eventually overcome his difficulty.

A description of what the beginner has to learn and the difficulty in applying his learning is perhaps an effective way of defining what is meant by "follow through." Unfortunately, however, it is more easily defined than done. Only a natural is able right off to divide the attention between two actions which, even when done separately, tax the mind to the limit of concentration.

I can still remember vividly what strain I underwent on occasion of following through successfully the first time. It seemed that I was doing barrel rolls when not floating through space, yet no matter what the sensation, I did not lose the sight picture. Before the spell was broken I had fired 19 consecutive 10's, which was 10 better than ever before. It was somewhat of an achievement, considering that few luckless beginners tried harder than I had tried. In that day I was like the frustrated card player who wants to play another hand.

I would like now to tell the beginning rifleman some easy way to follow through, but am compelled to say that mostly it is an exercise of what seems to be an almost superhuman power of will. All else is merely aid to help the will, be it trick or artifice, or provision to make the efforts seem less arduous. Any help I can give is either a description of the artifices, else a detail of ways which make the physical effort easier. Thus what follows is confined to controlled motion of the hand, and to the problem of keeping the mind concentrated on the sight picture while it is superintending the motion of the hand.

As to motion of the hand it may come as a surprise to be told that less of conscious effort is needed to move the hand than to move the finders. For proof notice that in writing with pen or pencil we move the hand rather than the fingers. The telegrapher, needing to execute short movements, uses the hand and wrist to operate the Morse key, while the fingers merely transmit and cushion the motion.

Another phase of the telegraph analogy is still more useful in showing the nature of the difficult feat which confronts the shooter. As an oldtime telegrapher myself, I introduce it by saying that few if any operators are ever able to utter one spoken word

(Continued on Page Six)

CHRONOGRAPH TESTS OF LOADS

Using Primers Exposed to Various Humidities

ALL LOADS: .38.0 grains 3031—Federal #210—.30'06 FA '35 case

Date Fired	% Humidity	Time mo.	Wt. Bullet	Avg. Vel. F. P. S.	Spread F. P. S.
11-8-62	90	2	169 FJ	2212	32
	0	2	169 FJ	2191	19
	100	70 days	169 FJ	Failed to Fire	(5 ctgs.)***
	AR	none	169 FJ	2203	19
11-11-62	0	2	145 FJ	2270	15
	AR	none	145 FJ	2269	31
	95	2	145 FJ	2264	46
	80	2	145 FJ	2260	41
11-24-62	See Notes (1)		145 FJ	2188/1513	675 Missfires*
	See Notes (2)		145 FJ	2198	121
	See Notes (3)		145 FJ	2288/2075	213 Hangfires & Missfires**
	95	2 1/2	145 FJ	2227	88
Held ***	100 (5 ctgs.)	from 11-8)		2132 (4)	46 (169 FJ Bullet)
Notes: (1) From 100% lot of failed primers—Air dry & bake. (2) Same—Air dry only. (3) Same—Bake and dessicate. (4) Five cartridges loaded 11-8-62 with primers from 100% exposure and held for 11-24 test.					
1-20-63	AR	none	150 FJ	2247	Powder at head
	AR	none	150 FJ	2164	Powder at neck
	AR	none	150 FJ	2247	Powder level
	95	4 1/2	150 FJ	2268	21
6-8-63	90	4 1/2	150 FJ	2232	125
	95	9	150 FJ	2278	57
	90	9	150 FJ	2304	69
	80	9	150 FJ	2310	11
	AR	none	150 FJ	2278	15
	0	9	150 FJ	2288	63

(Above results are averages of 5 and 10 shots)

* Two missfires, also failed to fire on restrike.

** Four hangfires, two missfires also failed on second strike.

***Ten rounds loaded 11-8-62. Five tested 11-8-62, all failed to fire. Remaining five tested 11-24-62 fired.

AR for As Received—Primers kept in sealed container.

FOLLOW THROUGH

(Continued from Page Five)

while the hand is saying something else by different means. The tongue is helpless because one cannot perform two voluntary actions simultaneously when each requires a different kind of coordination in the thought process. Evidently the mind cannot entertain two different ideas at the same instant.

What is meant by this perhaps is made clearer by observation that one can sing and simultaneously keep time to the tune with hand or foot for the very good reason that the same thought and mind coordination are back of both actions. With a common motivation one act is thus an involuntary accompaniment of the other.

In the shooter's follow through there is no such relation between the two acts. To will the finger to squeeze carefully requires a concentration of mind which pertains only to muscular sense as the hand does the mind's bidding. To hold the eye concentrated on the sight picture involves a concentration of mind which pertains to the functioning of an altogether different one of the senses which, for success, must likewise be attended by an intense follow through. Doing both at the same time is thus equivalent to giving concentrated, simultaneous attention to separate, unrelated actions, whereas the consciousness tends naturally to deal with only one thing at a time.

It is plain therefore that the shooter must devise what for him is a manner of squeeze which comes as near as possible to being automatic; or, if not so, is one which at worst will cause the least disturbance of aim if the squeeze is performed clumsily.

I believe that a clumsy squeeze will cause the least disturbance of aim when the ball of the thumb bears straight down on the top of the grip in its mid-plane while the last three fingers are curved so that the ball of their tips touches the left side of the grip. In this position the tips of the fingers transmit very little force if they move reflexively when the trigger finger moves. Conversely, if reflexive movement does occur, yielding at the finger tips provides more freedom for motion of the trigger finger. At the same time this manner of grip may serve also to steady the aim. This result is accomplished by consciously maintaining a slight backward pull of the hand so that the drag of the finger tips, plus the pressure of the finger on the trigger, exerts a faint backward pull on the rifle itself. The gain in steadiness is as much as fifty per cent, and because of this the degree of concentration needed to get the shot off is less in the same proportion.

Mention of this steadying effect brings to mind another duty, the execution of which is an absolute must. It is so important that advice about it should be written in capital letters and underscored. Defined it is what is called "taking command" of the trigger, which amounts to exerting upon it a pressure somewhat less than that needed to fire, but still enough to absorb all slack in muscles and trigger. As this is preliminary to aiming, always lay the sight on the bull first. Then if the rifle does fire the worst that may befall is a nine; the best a ten without having had to sweat for it.

All close aiming should be done with the command pressure on. The reasons are these. The aim moves as trigger pressure is increased. Thus, with aim corrected to the pressure, one may then, without jerking in the usually accepted sense, put the final pressure on very suddenly and so get the shot off while the aim is still good. For these reasons initial pressure pays off handsomely. Perhaps it is not an exaggeration to say that no one who is not accustomed to taking command of the trigger ever becomes highly proficient with either rifle or slow fire pistol.

Which joint of the finger to use in squeeze depends on the control of the individual. The second is preferable because for one reason a heavy trigger seems light. Beside this, as a large movement is more easily willed than is a small one, one can imagine that the tip itself of the finger is what is being moved, and the small movement needed to break the trigger will be a byproduct of motion at the tip. Thus, if all else fails, a wave of the finger tip will get the shot off.

For me there is one way which is still easier. It amounts to pulling the whole hand itself backward just enough to make the trigger break. Very little of conscious effort is needed to do this, and a fine advantage is that the aim is very steady while the pressure of the pull is on. I won my master rating firing this way, and finally gave up the method only because of overhearing someone say that it is bad form to squeeze that way. Bad form or not, there is no law against it; and sometimes yet, when muscle bound, I get the shot off that way.

As to the seeing part of the follow through, the tenets of psychology tell us that attention—of the eye for example—is normally intermittent, and is continually "rising and falling, waxing and waning." This is to say that attention is inconstant to extent of alternately leaving and returning to the object of attention.

As for this reason there are two strikes on us when we start, it is imperative that the sight picture have something in it which, if possible, naturally attracts attention. If not this, then at least it should be so constituted that it may be attended with very little effort. For metallic sights this calls for the best possible aids to vision. For the telescope it certainly does not call for the highest power. It does call for proper focusing; and, what is possibly still more important, calls for the right degree of fineness or coarseness in the reticle. As target rings are still and crosshairs are wabbling, the crosshairs should be coarse enough to attract more attention than the target rings. Otherwise the eye may tend to fix on the rings instead of the reticle.

To score a 10 with certainty requires, among other things, that the eye see the junction of the crosshairs in the 10-ring at the time when the rifle fires. This statement means exactly what it says. If you did not see the crosshairs in the 10-ring you don't know what the aim was. If the shot is a 10 that is merely coincidence; if it is out you have no right to call it a flier.

Because the crosshairs are dancing, and because also attention is by nature intermittent, it is difficult to know at all times just where the junction is. If lost it is not easily found because the hand is quicker than the eye. Thus it is almost a necessity that the shooter find ways to preserve the continuity of vision and concentration until the shot can be gotten off.

One such stratagem consists of following the junction into the 10-ring and getting the shot off almost instantly. The mere fact of following the junction in enables one to know where it is during this interval. Another trick, useful on a calm day, is to lay the crosshairs on the bull, and pause a few seconds like pausing for breath at the head of a stairway. The resulting composure enables one to fix the eye on the junction, then definitely place it in the 10-ring and see it there. As seeing it there is the all important thing in scope shooting, the attention at this instant is keen enough to endure for a second or two. So, other factors equal, if one fires promptly the shot will most certainly be a 10.

Another trick, while it may not get many x's but may get a 400, is to follow the junction into the 10-ring with firm re-

solve not to let it escape therefrom until after the shot is fired. This stratagem, by giving the mind a game to play at, keeps it interested enough to hold the eye to attention. Still another trick is one which may help a lot on a rough day when the score depends not so much on what the wind does to the bullet, but what it does to the rifle. On such a day, though the aim may be swinging from 8-ring to 8-ring, likely the elevation will not be changing much. So, forget about the crosswire junction, level up the horizontal wire, then resign the attention to what the vertical wire is doing, and try to get the shot off while the vertical is making the transit of Taurus. If the horizontal wire is realigned every two or three swings you may be able to salvage a few 10's from the wreck. In a different case, when mirage is so heavy that rings may hardly be seen, try quartering the black.

In metallic sight shooting the bull does not get "lost" as does the crosshair junction in scope shooting, but there are other difficulties. For most of us it is difficult to know when the white band width is the same all around, and in smallbore shooting this difficulty is augmented by fact that there is not enough white room between the bull and the edge of the paper. If the background at the butts is dark there is an element of guess in aiming which may be partly overcome by moving the ring onto the bull from the inside.

Another obstacle is that the difficulty in seeing augments the difficulty in keeping the eye concentrated on the aim. The eye attention to the sight picture therefore blanks out more often and for longer periods than it otherwise would do. There are two tricks, however, whose employment will help to mitigate this fault. One is to try to see only the white band, and to see it as if it were painted on the paper, this being done by keeping the eye focused for target distance alone. The difficulty in doing this is what tends to hold the attention constant. Moreover, there is a fine advantage which accrues from seeing the white band as if it were painted on the paper. The details of the sight picture are more accurately appraised with result that errors which might otherwise escape unnoticed are discovered.

The other trick consists of continually and purposely running the eye from top to bottom and side to side of the bull. In addition to holding the attention by keeping the eye occupied, this trick, like the other, assists in discovery of aiming error.

In summing up it is repeated that missing occurs because the aim is not on the target when the rifle fires. The aim may be off the mark because most shooters find it inherently difficult to perform two widely different actions at the same time. The cause of this difficulty resides in the fact that each of the two actions demands an extreme concentration of attention which must endure until the trigger breaks, notwithstanding that the mind cannot naturally divide its attention, nor even hold attention constant.

The solution of the squeeze problem is the adoption of a technique which is as near as possible to the automatic with a minimum of jar. The attention to the aim is best held by use of artifice which employs the eye at doing something more active than merely looking.

Finally, it is very easy to believe that one is following through when in reality one is not doing so. Thus if scores have taken a turn for the worse, the possibility that one is not following through is among the first of faults to look for. It is amazing how much a fault in the follow through will damage the scores, and is equally amazing how much a good follow through will up them.

Random Shots

By Betty Summerall Duncan

The Central Smallbore Prone Regional at Ft. Campbell, Ky., the week-end of June 1-2 proved to be a prediction of things to come, at least in respect to the winner—Miss Marjorie Hamlin of Asheville, N. C. Joining the elite circle of perhaps half a dozen ladies who have attained Open Regional Championship status—(offhand, I recall Audrey Richards, Elinor Bell, Viola Pollum, Inez Sargent, and Lenore Lemanski)—Marjorie achieved an overwhelming 3175-204X victory. The closest man to her was Rene Dognaux, Vincennes, Ind., with 3168-178X.

Humidity and temperatures in the mid-nineties, with an uncovered firing-line, required ingenuity as well as ability, and Marjorie rose to the occasion by wrapping her head in a wet towel in order to keep going. Sweeping 12 of a possible 14 first-place awards, she won the Metallic Agg. with a 1584-111X score, which provides a rather accurate picture of the challenging conditions. The Any Sight Agg. went for a 1593, fired by a fellow named Stafford. Marjorie's 1591-93X came in second. It isn't likely that any regional championship has ever before been won by such odds—the winner taking all of the individual matches except one.

The junior championship went to Mary Parris, also of Asheville, a 14-year-old Master who only began shooting in May of last year. Her 1568 Metallic and 1588 Any Sight Aggregates added up to a 3156 Grand. Marjorie was aided greatly by this rising young shooting star in proving gracefully, but adamantly, that Southern Belles have more attributes than merely being ornamental.

On the heels of this triumph, Miss Hamlin duplicated her winning ways by becoming the third lady to win the North Carolina State title June 8-9 on her home range in Asheville. Inaugurated 27 years ago, this state championship first went to the weaker sex in 1941 when well-known Alice Molt claimed the crown. (These southern gals aren't to be trifled with.) Marjorie won all three aggregates, taking the Metallic with 1587-93X, the Any Sight with 1594-105X, totaling a 3181-198X Grand Agg.

Six-time state chmap, Dr. Robert B. Kennerly, declined to defend his title, working in a scoring capacity instead. His 17-year-old son, Mike, admirably upheld the family name by placing second to Marjorie in the Grand with 3172-179X and the Metallic Agg.—1580-73X.

The range faces southeast and those without long front sights were handicapped by "seeing" problems. Freeland and Womack front sights were much in evidence. Tricky mountain winds made one work for each shot. Marjorie used a Freeland front on her factory 52C.

Individual metallic winners were: 15-year-old John Kirk, whose 399-28X took the Dewar over Marjorie's 399-25X; Marjorie Creedmoored Ernest Huffman, Kannapolis, N. C. at 50-meters with 395-25X; Marjorie also won the Dewar, scoring 398-22X over Mike Kennerly's 397-19X, and the 100-yd went to SS Frank Guyer's 396-17X. . . . Juniors Kennerly and Kirk fired the winning 50-yd 2-man team score of 398-25X. Stanford Webb, Asheville, and Preston Shephard, Cherry Point, trailed with 395-26X.

South Carolinians came into the picture with scope as Expert Bill Alexander, Landrum, and veteran Gil Humphreville, cleaned the 100-yd, 29X and 23X, respectively. L. W. Gettler, Lenoir, N. C., fired 399-29X for the Dewar win over Everett Proffitt, Asheville. R. D. LeGrand, Cary,

N. C., with a possible and 32X, led at 50-meters over Mary Parris' 399-27X. Alexander, with 36Xs, had the ranking 400 at 50-yds, followed by Kennerly's 35X. . . . Proffitt's 1594-97X took runner-up honors in this agg. Mary Parris had 1590-102X.

Popular NRA Director Edgar M. Ketchie, Sr. was on the firing line during Sunday's matches. . . . Asheville must be complimented on a terrific amount of newspaper coverage for this tournament. It's the best I've seen in a long while. . . . Referee Fred Molt, a veteran shooter himself, weighed triggers with the coordination essential to getting an honest weight and no one was disqualified. . . . Marjorie fired the only 400 in the State Pistol Team Match, the total score being 3968-201X.

Conceded as one of the nation's best, M/Sgt. Edward E. Caygle, Jr., USAF, aided by teammate, T/Sgt. Allan H. Hannon, had the situation well under control at the Southwestern Regional, Ft. Worth, June 8-9. Navigating his shots through 5-15 mph fishtailing winds, from 7:30 to 4:30, Caygle wrapped up a 3193-213X Grand Agg. victory. He and Hannon divided the sub-aggregates between them, the Metallic going to Ed's 1595-102X. NRA Executive Committeeman Raymond L. Sargent was right behind as High Civilian with a 1594-91X score. 1/Lt. Robert C. Metsker's 1591-100X topped the Military. . . . With scope, it was Hannon's turn as he posted an excellent 1599-112X win. Who should we find as High Civilian but our old friend, Walt Womack, tallying 1595-114. Caygle's 1598-111X took High Military honors.

The Sargents, true to form, came in for their share of regional silver—Raymond as High Civilian in the Grand for his 3187-193X, and Inez as High Lady, scoring 3177-197X. High Military and runner-up to Caygle was Hannon—3188-214X. The 3149-169X fired by Cindy Taylor of Orange, Tex. was good for High Junior laurels. . . . Weather was dry with mid-ninety degree heat.

Three new Nat'l Records exist as a result of the Southeastern Position Regional, conducted by the Somerset County Fish & Game Protective Assoc. of Somerville, N. J. on June 1-2. This replaced the Northeastern Regional canceled by Conn., and was held primarily to gain experience in tournament operation. (I, too, am puzzled by the name as N. J. surely isn't south and a southeastern position regional is still scheduled for Fla.). It attracted 39 competitors from 5 states.

Barry Trew fired 778-24X, metallic sights, 50-yds, 4-position, for a new Reserve record. Young Jim McHugh, East Landsdowne, Pa., established a Civilian record by virtue of his 788-39X, 50-yd, 4-position, any sight agg. score. McHugh and Trew blasted the Open 2-man team Record, any sights, with 793-35X. They won both team matches, followed by the team of Dr. W. G. McAuliffe and Art Burton.

Jim McHugh sounds like another Anderson in the making. From all reports, he is fabulous and is just getting started. The above records were fired with borrowed equipment as he sold his gear this spring to get money for college! His efforts to obtain a college athletic scholarship, based on shooting, have so far been unrewarded. If some institution of higher learning, MTU, or the USAF Int'l Team doesn't grab McHugh, they are missing a good bet!!!

Interest around the country has been focused on California's second experiment with the British Nat'l targets. Possibly the only man to have fired two 1600s with metallic sights, it is not surprising that Bob Boydston not only won the Metallic Agg. on these smaller-ringed targets with 1555-61X, but is the new California State Prone Champion, as well. He fired his Atkinson-



Bob Boydston—California State Smallbore Champ (on British National target).

Marquart BSA Mk II action, MK I trigger, Freeland tube with Bell front sight, .140 aperture, Lyman 20X scope, Remington ammo. Placing second, with 1569-56X, to Lee Reich's winning 1572-75X Any Sight Agg. total, Bob left the pack far in the distance as he outpointed Bob Perkins 3134-117X to 3116-122X in the Grand. Next in line were Carl Herriman with 3103-120X, Gerald Marotta with 3102-107X, and Reich with 3101-118X.

Attendance was down somewhat at Ft. Ord on June 8-9 as 70 competitors grumbled about their low scores. Perkins, whose idea it was to fire on these targets, has overcome his eye trouble and followed Boydston in the Metallic Agg.—1550-56X. Marotta's 1545-46X placed third over Bob Walline's 1541-47X. . . . With scope, Dick Burkhardt out-X'd Perkins for third place—1566-75X to 1566-66X.

Out in front with irons we find Perkins at 50-meters—397-12X; Boydston at 50-yds—393-21X, Dewar—389-21X, and 100-yds—383-11X. With scope, we have: 50-meter—Walline—399-24X, 50-yds—Reich—397-29X, Dewar—Perkins—395-27X, 100-yds—Burkhardt—387-12X. . . . All winners listed so far are Los Angeles Rifle & Revolver Club members with the exception of Perkins who is a former member.

The State Postal Team (on standard targets, Dewar Course, metallic) fired 3979-262X as Walline had the only possible. This was considerably under their record-breaking 3993 fired last year. (They needed the 4 Californians who were then in Europe). . . . Capt. Gerald Maloney, CONAC Reserve, won the Calif. Position Championship, also on the Brit. Nat'l target, with 778-33X over Donald Velasco's 769-30X. Maroney won the metallic match with 390-16X and the Any Sight with 388-17X. . . . In the Prone Agg., Velasco took Expert honors with 3064-78X, Cliff Honza fired 3073-99X for high SS, and Bo Waddel led the MK with 3055-106X. Karen Ostergard, second MK with 3150-93X, chose the High Junior title so the Ladies' Championship went to Marilyn Specht with 3037-70X.

The Connecticut State Position Championship, non-registered and taking the place of the canceled regional, was declared an unqualified success by the 55 competitors at Blue Trail on June 8-9. This was quite an increase over last year's regional. Shooters from N. J., N. Y., Vt., Mass., Pa., as

(Continued on Page Eight)

RANDOM SHOTS

well as Conn., congratulated T/Sgt. **Teddy McMillion**, Westhampton Beach, N. Y., on his 1542-66X Grand Agg. victory. Dave Jones, Plantsville, Conn. was runner-up with 1536-51X, and the 1527-65X fired by Ken Stannard of the Roseville, N. J. Club, was good for third. High Lady and 6th in the Master Class was Virginia Williams, Conn. State Smallbore Director, with 1512-55X. Dave Ross traveled from Philadelphia to post the second highest score, 1542-53X, for High Expert. He was a former All-American, shooting for Yale.

As Pennsylvania's outdoor schedule goes into full swing, **Harry Rochman** of Shenandoah, Pa. won the **28th Central Penna.** tournament at Dauphin on June 1-2 with a 3171-179X Agg. First in Class B was John Patrasek, Kingston, Pa., firing 3134-139X. Conditions were good in the mornings, but turned quite rough around noon both days. Rochman swept the two any sight and two metallic matches on Sat. as well as that day's agg. He took the Dewar any with 399-25X, the 100-yd any with 398-22X, the 50-yd iron-399-17X, the 50-meter iron-390-18X, and the Agg.—1586-82X. Royden Hutchinson, Bethlehem, Pa. fired 1541-55X to win in Class B . . . Petrasek won the 50-meter any-400-36X, Rochman, the 50-yd any-400-31X. Canadian Nat'l Metallic Sight Champ, C. H. "Bob" Kline, of Lock Haven, Pa., who was only able to compete on Sunday, won the last two matches, the Dewar and 100-yd iron with 395-23X and 399-20X scores. Kline also took the Sunday Agg.—1590-106X. Class B winner was Harold Devore, Waynesboro, Pa.—1572-76X.

Attendance was down at Dauphin because of the conflict with the second annual spring registered tournament in **Pittsburgh** on June 2, sponsored by the Dormont-Mt. Lebanon Sportsmen's Club. One of the main spearheads in this club is Charlie Morris, who donated merchandise awards for the winner and high lady, in addition to the scheduled cash awards. The weather was lovely, with wind conditions just tricky enough to keep competitors alert. It was an exciting finish as **Charlie Whipple** and **Jim Morris**, Akron, Ohio, ended up neck-and-neck, both with 1599-133X. Morris won the Creedmoor by 2Xs on the 100-yd breakdown.

In the all-scope program, Harold Berkey, Sipesville, Pa. took the opening 50-yd with 400-38X. Jim Morris, firing 400-34X, won at 50-meters. Whipple's 400-36X led in the Dewar. An up-and-coming shooter, O. R. Weaver of Brookville, scored the only possible, X-count 27 at 100-yds. He placed third in the Agg. with 1597-115X. Bertie Moore, placing 7th with 1594-118X, won High Lady honors . . . On the 300-meter target reduced for 100-yds (not included in the agg.), it was George Handel's 396-21X in the lead.

At **Clarion, Pa.** on June 16th, the Grand Agg. winner was **Handel** by 1 point over Loren Samsel, Sr. and Whipple. His score: 1595-118X . . . At 50-meters any it was Jim Morris—400-37X, Whipple—400-35X, Bob Kline—400-34X. At 50-yds iron, Loren Samsel, Sr.'s 399-32X led Jerome Schmidt and Handel's 399-28X. Handel overtook Samsel and Eleanor Swartz in the Dewar iron—398-30X, 398-27X, 398-24X. At 100-yd any, Kline's 400-34X outclassed Samsel, Jr.'s 30X and the 27X fired by Henry Genthner, Rochester, N. Y. . . The Any Sight Agg. went to Kline's 800-68X, followed by Whipple's 800-61X and Morris' 799-43X. In the Iron Agg., Loren Samsel, Sr., with 797-59X, beat out Handel by an X. Clinton Fowler, Hagerstown, Md. came in third with 796-50X . . . Ed Summers' father, W. H., attended both of these tour-

naments and is holding his own in the SS class. He led this class in the Any Agg.—794-43X.

Seemingly oblivious to the worst storm Clovis, N. M. has known since 1941, **Al Sharpnack**, Pueblo, Colo., shot an almost unbelievable 3190-234X to win the **Far Southwestern Regional** June 1-2. Someone commented that the strong winds must have blown his shots in instead of out as "no one can shoot that well." Whatever happened, he still came through with a commendable 1597-131X Metallic Agg. win. He took all of the metallic matches except the 50-meter, which went to G. A. Caldwell, Amarillo, Tex., who was runner-up and Hi Military in the Grand with 3188-193X. Caldwell also won the Any Sight Agg.—1595-102X over Sharpnack's 1593-103X. 16-year-old Gloria Henderson was third in this agg. and regional Ladies' Champion. She also won the 50-yd any with 400-32X . . . R. B. Wheeler, Los Angeles (who picked up two Expert class firsts), was the only one whose car didn't get stuck in the mud on Sat. Some competitors couldn't take it, apparently, and stayed at home to dry out the second day . . . Hi Expert was E. C. Olinger, Ponca City, Okla.

The new **Kansas State Champ** is **Joe Liles** of Emporia, who won his title at Topeka on June 15-16—his 3184-210X edging out Jim Tempest's 3181-191X. With irons Liles took the 50-yd—400-27X, and the 50-meter—397-31X. Wildcats President Howard Smith, Des Moines, Iowa, won the 100-yd—400-28X, while the Dewar went to SS Scott McGill's 399-24X. Tempest, of Omaha, Neb., scored 1591-91X for the Metallic Agg. win.

Bill Hankins, Cedar Rapids, Iowa, had things his own way in all of the scope matches, except the 100-yd, where he must have lost his shirt. He took the 50-yd, 400-35X; the Dewar, 399-34X and the 50-meter, 399-29X. The remaining 100-yd went to Liles' 399-16X. Liles, who began shooting in '55, swept the Any Agg. from Hankins—1597-100X to 1593-120X . . . Grand Agg., Hi Expert—Wm. R. Shinn, Topeka—3160-164X; SS—McGill—3147-147X; MK—Gary Liles—3142-142X; Hi Jr.—Bill Hoffman—3133-137X.

A "well done" to **Gary Olson**, winner of the **Secretary of the Air Force AFROTC** 4-position smallbore postal match in competition with approximately 700 AFROTC cadets from nearly all of the leading colleges and universities in the nation! Representing Occidental College (Calif.), this 18-year-old champion fired a 393 to win over the 390's turned in by Anthony Spate, Louisiana Polytechnic and Thomas Verzi, Univ. of Md. High 5-man team award went to La. Polytechnic with a 1917 win over The Citadel's 1899. Ariz. State Univ., scoring 1888, came in third . . . Gary is becoming well acclimated to his contact lenses. His most recent victory was the Junior Position Regional at Brea, Calif., where his 387 led the field of 140 over Bob Randle's 385.

Eleventh hour news from the Blue Trail Range—: here's what we've all been waiting for! 123 competitors demonstrated their support of Connecticut's stand on Rule 9.14 by competing in the non-registered **North-eastern Prone Championship** on June 29-30. Others, who were unable to attend the tournament, expressed their written approval. What was lacking in quantity was more than adequately compensated for in quality, as some big names were on hand . . . All aggregates were hotly contested in the race for the \$100 Grand Agg. awards in each class. **Bill Grater**, Int'l Prone Team member who stopped over en route from Bisley to Calif., wrestled the Northeastern Championship from **Sam Burkhalter's** grasp when Sam



Gary Olson—winner of Secretary of the Air Force, AFROTC trophy.

lost a 12 o'clock 8 at 100-yds any. Grater ended up with 3195-241X to Burkhalter's 3193-243X . . . Some amusing photos were taken of Ray Bentley (Perth Amboy, N. J.), SS Class winner scoring 3164-173X, and Harry Stowell (N. J.), who won in the MK Class with 3162-173X, with \$10 bills sticking out of their hats, socks, pockets, etc., plus all the medals which they won . . . Gregory Tomsen (N. Y.), totaling 3186-212X, won out over R. Truesdell's 3184-219X for the Hi Expert "pot" and over Janie Svab for High Junior. Randle Team member Evelyn Beazley, who fired 3183, claimed High Lady honors by 4 points over Janie.

Grater's flashy shooting was with irons, during a steady drizzle and hardly a breath of wind. Most unusual for Blue Trail! Losing the 50-meter opener to Burkhalter's 400-27X and Lloyd Norton's 400-23X, Bill followed Larry Moore's 399-31X with 399-29X. From then on, he bore down with a 400-34X 50-yd win over Teddy McMillion and Kermit Montross' 400-30X; he took the 100-yd with a possible and 23Xs over Eric Sundstrom's 399-24X; and also cleaned the Dewar, his 32Xs leading Montross' 27X and Sundstrom's 26X . . . Grater's Metallic Agg. win was automatic. It reads 1599-118X; Sundstrom—1596-108X; Burkhalter — 1595-108X; E. Clausen—1593-94X, and Moore—1592-113X.

Sunday would have been Burkhalter's day had it not been for the fateful 8, which also determined the Grand. Sam cleaned 3 of the 4 scope matches with the ranking possibles. He won at 50-meters with 36Xs over Clausen's 32X, at 50-yds—38X over Moore and Walt Tomsen's 37X, and the Dewar—36X, just edging Grater, Norton, and P. Tierney's 35Xs. At 100-yds it was **Ken Stannard**, well-known position shooter from Weehawken, N. J., firing 400-31X, followed by Evvie Beazley's 400-29X. And, before anyone realized what had transpired, Stannard turned in the first 1600 ever fired on the Blue Trail Range!!! At least none of the old timers can recall such an accomplishment. Ken attributes his 1600 to the fact that the high humidity and temperature in the 90's had taken so much out of him that he was too tired "to get shook." From the competitors' point of view, the only drawback to not having registered the tournament was that Ken is denied membership in the 1600 Club. He takes a philosophical approach to it, feeling that it has restored

his confidence and having shot it once, he can do it again . . . Trailing him in the Any Sight Agg. were Burkhalter's 1598-137X, Evvie Beazley's 1598-113X, Clausen's 1598-109X, and Norton's 1597-128X . . . In the Grand, Clausen placed 3rd-3191-203X, Sundstrom, 4th-3190-227X, Norton, 5th-3189-235X. Stannard also scored 3189. . . . An 800 by Grater and Sundstrom took the metallic team match.

It'll be interesting to learn how many range records fell during that classic tournament at which N. Y., N. J., and Conn. had large representation, Mass.-10, Md.-3, N. H.-2, Calif.-1, Wyoming-1, and Mr. J. B. Kusale from India was a competitor. In addition to the cash awards, enameled medals were awarded in all matches, and medals encased in lucite blocks with colored background went to Grand Agg. winners. High Lady and High Junior received lucite trophies. Grater also received a miniature of the beautiful Russ Lent Trophy . . . He fired his Atkinson-Marquart barrel with Karl Kenyon trigger and action, Bell front sight, Redfield X-tube and Int'l rear, Lyman 20X scope.

Let's help the NRA in their effort to more widely publicize the Nat'l Matches! If all of you will call your newspapers, more editors will be induced to print the press releases from Camp Perry.

WE CAN BECOME A NATION OF RIFLEMEN!

By Fred W. Hallberg

This is the second of a series of articles which began in the March issue under the title "What Should We Do To Improve Our Small Arms Ballistic Know-how?"

We can achieve our desire and our right to become a nation of riflemen! Substitute wishful thinking for a blueprint of steps necessary to attain it and see what happens. Almost any kind of blueprint is better than none. It is important that we learn to design general purpose ranges for use in urban areas and I understand work is now going ahead on such designs at the NRA. But it is equally important to design the means of obtaining them. If we are to accept the facts of life of a constantly growing population and a constant decrease in available land, we might as well start right now to work for facilities that will become a permanent part of the American scene.

Good planning requires thought and research. Both require hard work. Research, particularly, requires the tenacity and mentality of a Sherlock Holmes. But once the blocks of information are at hand, imagination alone will cement them together and form a general structure. Such plans should be authored and set up as a national policy by a central agency.

What are the requirements for this plan? Let me briefly write down those that immediately come to mind as I'm typing this article. First I shall list a few of the things that must be considered. Then I shall describe some of the things I have seen while running around the world as a foreign representative of an American chemical concern. Finally, I shall try to sum it up into a line of action.

Here are a few things that our overall plan must consider:

1. History and nature of privately established ranges. Does the number relative to population increase or decrease? How do present trends compare with those of the 1920s and the 1930s? Has the type of range changed over the years? Have they

become larger or smaller? Has the numerical relationship of indoor to outdoor ranges changed? Has the military range situation changed and what are current military ideas and plans relative to range facilities?

2. What is the projected population growth of the United States by area or locality? What is the year-round climate of each locality? This last is very important and easily obtained. What is the transportation and realty situation of the locality?

3. Can ranges with proper facilities be financed privately or must government agencies give a hand? Can the armed forces make profitable use of such facilities and thereby supply part of the cost? Should range property remain in private hands or should it be handed over to some governmental unit such as city, county, or state and, incidentally, provide practice facilities for their law enforcement agencies. Such transfer also avoids the annual financial drain of property taxes.

4. Will establishment of a network of ranges increase the system of security of the United States at less cost? People trained in small arms at such ranges feed, house, and cloth themselves. That is not true of the military when undergoing long periods of similar training. Savings in Reserve and National Guard training alone might be substantial. Can such ranges serve dual purposes—that is, can they serve other purposes beside shooting so as to increase their desirability and their sources of revenue?

5. Will establishment of more and better ranges reduce recurring pressures for restrictive arms legislation? Such pressures do not always arise from a desire to control criminal elements and neither are they necessarily the work of communists. We do not yet recognize some of the real sources of much of this agitation. This will be discussed in a later article.

We can all think of many more things to be added to our list but the purpose here is to illustrate what is meant by developing

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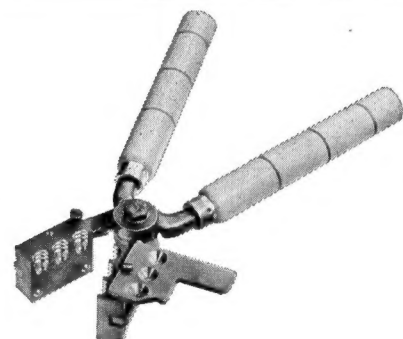
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a basis for proper planning. Let me now describe an experience with a rifle range while I was resident in Brussels, Belgium,

(Continued on Page Sixteen)

National Bench Rest Shooters Association, Inc.

NBRSA OFFICERS AND DIRECTORS FOR 1963

EASTERN REGION

Brunon Boroszewski (Director)
Chestnut Ridge Rd.
Orchard Park, New York
133 State Street
Augusta, Maine
George E. Kelbly (Deputy)
4 N. Hickin Ave.
Rittman, Ohio

GULF COAST REGION

Henry W. Spencer
P. O. Box 2076
San Angelo, Texas

MID-CONTINENT REGION

Larry Englebrecht (Vice Pres.)
122 Gow
Wichita 3, Kansas

MISSISSIPPI VALLEY REGION

Alfred W. Walter (President)
1925 Raft Dr., Hanley Hills
St. Louis 33, Missouri

NORTH CENTRAL REGION

Walt C. Siewert
Box 749
Custer, South Dakota

NORTHWEST REGION

Raymond Speer
925—7th St.
Lewiston, Idaho

SOUTHWEST REGION

John B. Sweany
187-A Silverado Trail
Calistoga, California
Secretary-Treasurer
Bernice E. McMullen
607 West Line St.
Minerva, Ohio

NBRSA MEMBERSHIP DUES:

Individual annual dues \$5.00 (includes magazine subscription for membership term). Associate member (wife or husband, son or daughter under 18 years of age, of member in good standing—no magazine) \$2.50. Life membership, \$75.00. Annual club affiliation fee \$10.00.

PRESIDENT'S CORNER

This will be the last time I will be able to get to each member before the National Matches coming up next month. I wish to encourage each member to attend both the Unrestricted Matches and Varmint & Sporter Matches if at all possible. This is the one time each shooter gets to meet the person he reads and hears about throughout the year.

The many miles of traveling may keep some from attending, also financial matters, etc. I wish to thank each member for the co-operation that they have given me through the past year. As we elect the new President for the coming year I feel you will pass on your great and most welcome help to him. Throughout the year I have had many letters of suggestions and I have listed them all for the annual meetings in Pennsylvania. During the National Varmint and Sporter Matches in St. Louis this year I will call an open meeting so that each member attending may speak his mind about how to improve the organization. These two meetings will be held after the matches on the dates of August 9th and 10th. We will then take the ideas or requests with us to the 1963 annual meetings and thereby have representation of individuals along with the Board of Directors.

Mr. Charles Kingsley has a few lines he wishes to have published in this month's magazine for us to think about. I will

shorten my article so that his may be published.

Hoping to see you at both National Matches.

Sincerely yours,
A. W. Walter, President

SUGGESTIONS TO CONSIDER

Editor of PRECISION SHOOTING
Sir:

I have just completed my job as Chairman of the Rules Committee charged with rephrasing the rules for conducting bench rest competitions. Many members are disappointed that we didn't make certain "changes" in the rules, and others would have liked us to rewrite the By-Laws. We did not have authority to do either of these things.

My appointment as Chairman converted me from a mediocre shooting member to one with an active interest in the organization. As such, I wish here to point out means whereby I think the Association could be improved. Bear in mind that I've done no specific research on the organization and my assumptions based upon a general knowledge of the applicable law may be somewhat inaccurate in detail, though generically sound.

An Association such as NBRSA, Inc. is usually formed under the Membership Corporation Law of one of the States of U. S. A. A Certificate of Incorporation is prepared by the founding members, and is approved by a judge of a high court, or by the Secretary of State of the State in question, the particular method depending upon the law of the State. This certificate, sometimes called a charter, or a constitution is the fundamental document from which, together with the Membership Corporation Law, all voting and rule making powers are derived. The right to makes rules (which here include By-Laws) includes the right to change them.

I've never seen our Certificate of Incorporation, but I have seen our By-Laws and they leave a great deal to be desired. I have suggested to President Walter that he appoint a western lawyer as a committee of one to prepare a new set of By-Laws for submission to the membership for action in 1964. I understand that this has been or will be done. Without any wish to encroach upon the work of this committee, I suggest here what I consider to be a more workable organization than we have now.

The Association shall be National in scope, and shall be divided into geographical regions. Each region shall have as many directors as its membership divided by 150, 200, 250 or some appropriate number. Each region shall have a Governor elected by its directors.

Every member shall have a right to one vote, to be cast for the election of a slate of one or more candidates for regional director.

Every Regional Director shall have one vote to be cast for the election of a regional Governor.

Every Regional Governor shall have one vote to be cast for the election of a President.

The Association shall be governed by the Board of Governors presided over by the President, who shall have a right to vote only when necessary to break a tie.

No rule or By-Law shall be changed except by a vote of two thirds of the Governors entitled to vote—whether or not present at a meeting.

Voting for Directors may be by proxy, but all other voting shall be in person. Meetings of the Board of Governors may be held by conference telephone if the President decides such action is necessary.

Meetings for election of Directors shall be held on the occasion of the holding of

1963 BENCH REST MATCHES

EASTERN REGION

Heavy Bench Rifle Classes

Augusta, Ohio: Aug. 17-18, Sept. 14-15 (Eastern Region Championship); Reed's Run Rifle Range, Box 66, Augusta, Ohio.

Plainfield, New Hampshire: Sept. 22 (State Championship); Plainfield Rifle Club, Inc., c/o Leslie R. Stone, Sec'y, Plainfield, New Hampshire.

Southboro, Mass.: Oct. 12-13; Southboro Rod & Gun Club, Inc., c/o J. W. Baldwin, P. O. Box 402, Westboro, Mass.

Wapwallopen, Penn.: Aug. 29, 30, 31 and Sept. 1 (NATIONAL CHAMPIONSHIPS); Council Cup Rifle Range, c/o Robert W. Hart, 332 Montgomery St., Nescopeck, Pa.

Varmint and Sporter Classes

Fassett, Pa.: Sept. 8, Sept. 28-29 (State Championship), Sept. 8, Sept. 28-29 (State Championship); South Creek Rod & Gun Club, c/o Gerald Arnold, Sec'y, R. D. #2, Gillett, Pa.

SOUTHWEST REGION

Yreka, California: Aug. 31 and Sept. 1 (West Coast Championship); Yreka Rifle Club, c/o Ray E. Jones, 508 Knapp St., Yreka, California.

Fresno, California: Oct. 12 and 13 (Southwest Region Championship); Fresno Rifle & Pistol Club, c/o Henry C. Wright, Sec'y, 4663 East Olive, Fresno, Calif.

Modesto, California: November 3 (non-registered); Modesto Rifle Club, c/o Duane D. Jenner, 1499 Ralston Court, Modesto, Calif.

MISS. VALLEY REGION

St. Louis, Missouri:

Aug. 9-10-11, NATIONAL CHAMPIONSHIP

VARMINT & SPORTER

Sept. 8, day, Unrestricted class

Sept. 28, night, Heavy Varmint

Oct. 12, night, Sporter class

Bench Rest Rifle Club of St. Louis, c/o Arthur M. Freund, Sec'y, 1038 Hornsby, St Louis 15, Missouri.

MID-CONTINENT REGION

Hot Springs, Arkansas: Aug. 24 (night, heavy varmint & sporter); Hot Springs Gun Club, c/o Robert A. Holiman, Sec'y, 220 Hollywood Lane, Hot Springs, Arkansas.

Wichita, Kansas: Oct. 5 (night, Heavy Var. & Unrestricted); Wichita Bench Rest Rifle Club, c/o C. R. Kunkle, Sec'y, 1914 Lydia, Wichita, Kansas.

Tulsa, Oklahoma: Sept. 15*, Oct. 13* (all matches for all classes, June & July night, * denotes non-registered); Tulsa Bench Rest Rifle Club, c/o R. G. Berry, Pawnee, Oklahoma.

Kansas City, Kansas: Aug. 3 (night, Regional Championship); Sept. 21 (day and night, Heavy Varmint), Oct. 19 (day, unrestricted); Mill Creek Rifle Club, Inc., c/o L. F. Carden, 5022 Waverly, Kansas City 4, Kansas.

NORTHWEST REGION

Seattle, Washington: Aug. 17 and 18, registered matches, all classes. Contact Manley M. Oakley, Sec'y, 7230 So. 116th, Seattle 78, Wash.

NORTH CENTRAL REGION

Custer, South Dakota: Aug. 17 (unrestricted rifles), Aug. 18 (sporter championship), July 28 (non-registered .22 rim-fire bench rest). Walt Siewert, Box 749, Custer, South Dakota.

Iowa Falls, Iowa: Sept. 15 (sporter & varmint—morning). Iowa Falls Gun Club, Lee R. Boddy, Sec'y, Iowa Falls, Iowa.

Buffalo, Wyoming: Sept. 8, Sporter Shoot. Buffalo Outdoor Rifle Club, Inc., C. C. Hankins, P. O. Box 151, Buffalo, Wyoming.

the annual Tournament for Regional Championship.

In the event of death or resignation of a Director or a Governor, his position shall be filled by appointment by the remaining Director or Directors from his Region.

In the event of death or resignation of a President, his position shall be filled by appointment by the Board of Governors.

In replacing a Director, the Regional Governor shall take the initiative and shall canvass the appropriate regional directors by mail or telephone.

In replacing a Governor, the President shall take the initiative and canvass the appropriate regional directors by mail or telephone.

In replacing a President, the Governor representing the greatest number of regional directors shall take the initiative and shall canvass the other Governors by mail or by phone.

The foregoing is the outline of one form of organization capable of quick and efficient functioning, with no such confusion as followed the death of our beloved Rod Janson.

If your readers are still with me, I want to offer a bit of unsolicited advice which has to do with custom rather than with legal procedures. That is this: Discontinue the custom of rotating officers by rotation, progression or otherwise. In a golf club, yacht club, card club or similar local organization where office is largely honorary, and where the governing body can be quickly convened to repair incompetence such courtesy rotation can be justified as social expedience, but in a National Organization where mistakes are not likely to be caught until the damage is done, such customs are unjustified. Because a man is a good shooter, or an inventor, or a fine mechanic or gunsmith, it does not follow that he is a good executive or that he is guided in his decisions by reason instead of emotion. When you have a good director, a good governor, or a good president, keep him as long as he is willing to serve.

As a final word; Let's try the rules as now written until we get our Association streamlined, so that proposed amendments can be considered without pressure, and without haste by a governing board which can act for the best interests of the Association.

Charles Kingsley

Bench Rest Match Reports

ST. LOUIS, MISSOURI

At the Heavy Varmint and Sporter class matches, fired at the Bench Rest Rifle Club of St. Louis range May 26th, 14 competed with Heavy Varmint rifles and 16 with Sporters.

The Heavy Varmint matches were fired in the morning with very excellent conditions of low velocity, fishtailing wind and overcast sky. Featuring the shooting in this class were the Schellerts of St. Louis. Barbara Schellert ranked only 5th at 100 yards with .4160 but she was way ahead of the field at 200 yards with a range record breaking .3374 MOA aggregate and her targets have been submitted for judging as a possible new national record. Her 200 yard targets range measured .552", .618", .725", .905" and .527". Her winning NMC agg. of .3744 was also a new range record. Husband Wm. Schellert shot a .093" group at 100 yards for a range record and is being judged for a possible new national record. Both the Schellerts shot new Shilen rifles with Hart barrels chambered for the 222½ cartridge.

High ranking aggregates were:

	100 yd	200 yd	NMC
B. Schellert	.4160	.3327	.3744
A. M. Freund	.3476	.4659	.4068
Tom Gillman	.3542	.4652	.4097
Wm. Schellert	.3726	.5278	.4502
E. Mayfield	.3994	.5208	.4601
J. Lockett		.4769 (4th)	
F. Muriel		.4773 (5th)	

A. M. Freund shot a Shilen rifle with Holmes barrel chambered for the .219 Don. Gillman used a 20" Douglas barrel in .222 cal. on his own action. Mayfield shot a 222 Mag. in Douglas barrel on Springfield action.

The sky cleared for the Sporter class



Fourteen year old Gary Cunningham from Shawnee, Kansas, who shooting in his second registered match won the Unrestricted Rifle Grand Aggregate at the June 8th Mill Creek Rifle Club night shoot at Kansas City. He beat twelve older shooters representing some of the most experienced and capable competitors in the Mid-Continent Region. He was second in both sub-aggregates and in addition shot smallest group at both 100 yards (.255") and 200 yards (.575 inch). In front are the trophies he won and his rifle, a .222 with Apex barrel and sleeved Enfield action built by Baucher of Kansas City. Photo by Gilbert Baltzer, Kansas City

matches in the afternoon and the wind increased to minor gale velocity, but A. M. Freund made a decisive clean-sweep aggregate win and broke two range records in the process—the NMC agg. and a .500 inch group at 200 yards. The high ranking aggregates were:

	100 yd	200 yd	NMC
A. M. Freund	.5674	.5506	.5590
A. J. Freund	.6028	.6053	.6040
Tom Gillman	.6082	.6402	.6242
R. A. Freund	.6272	.6614	.6443
P. Fowler	.6924	.6974	.6949
A. H. McDonald		.6070 (3rd)	

All shot 6 m/m rifles and all but R. E. Freund used Douglas barrels. R. E. Freund used a Nu-Line barrel made in St. Louis (the Ted Holmes Gunshop successors).

A small entry of 6 local shooters competed in the Unrestricted class registered match on June 16th under excellent conditions of very little wind and overcast sky. The high ranking aggregates were:

	100 yd	200 yd	NMC
Barbara Schellert	.4016	.5483	.4749
F. Muriel	.3804	.6495	.5149
A. W. Walter	.4400	.6843	.5621
A. J. Freund		.3740 (1st)	

RICHMOND, INDIANA

Six competed in the registered night match with unrestricted rifles on the Richmond Police Range June 8th. All shot .22 cal rifles on mechanical rests under near perfect conditions. The three best aggregates were:

	100 yd	200 yd	NMC
Ferris Pindell	.263	.3085	.2857
Irv Potter	.281	.2993	.2901
Cline Deere	.357	.3163	.3366
Floyd Gibson		.349 (3rd)	

CUSTER, SOUTH DAKOTA

The 15th annual benchrest matches at Custer, S. D. scheduled for June 15-16 were completely rained out on Sat. (15th). Eight fired the matches for unrestricted, varmint and sporter classes on the 16th. NMC aggregate winners were:

Unrestricted; Bruce Pheasant, Buffalo, Wyo., .560 MOA; Owen Hollingsworth, Rapid City, S. D. .651; Walt Siewert, Custer .685,

Varmint class; Bruce Pheasant .4907; Bob Junk, Colorado Springs, Colo. .5117;

C. C. Hankins, Buffalo, Wyo. .741.

Sporter; Dr. Lee, Custer 1.124; Carson Teaney, Rapid City 1.225.

SEATTLE, WASHINGTON

Fifteen competed in the registered matches on the new range of the Seattle Precision Shooters, Inc. June 15-16. Shooting conditions are reported to have been good in the morning but becoming real tricky in the afternoon both days.

In the Unrestricted class, 6 shot in the open division and 5 in the limited. Twelve shot Heavy Varmint and ten the Light Varmint class matches. The high ranking aggregates were:

	Unrestricted Open		
	100 yd	200 yd	NMC
L. E. Wilson	.322	.723	.522
Ed Frombach	.434	.725	.579
B. Butler	.408	.806	.607
Manley Oakley	.391 (2nd)		
A. Bench		.604 (1st)	

	Unrestricted Open	100 yd	200 yd	NMC
Ray Speer	.575	.710	.642	
R. Bench	.703	.924	.813	

	Heavy Varmint	100 yd	200 yd	NMC
E. Frombach	.503	.443	.473	
L. E. Wilson	.389	.562	.475	
M. Oakley	.375	.622	.498	

	Light Varmint	100 yd	200 yd	NMC
Ed Frombach	.578	.781	.679	
M. Oakley	.599	.773	.686	
A. Thomas	.652	.805	.728	
L. E. Wilson	.650	(3rd)		
Amos Frombach		.791	(3rd)	

KANSAS CITY, KANSAS

The shooting of 14 year old Gary Cunningham from Shawnee, Kansas, in the Mill Creek Rifle Club night shoot for Unrestricted class rifles took the wind out of the sails of 12 older shooters, several of whom are among the most experienced and capable competitors in the Mid-Continent Region. Gary was runner-up in both 100 and 200 yard aggregates and won the NMC aggregate by a decisive margin. He also fired smallest groups at 100 yards (.255") and 200 yards (.575").

Bob Stultz (K. C., Mo.) who tied with Gary for 2nd in the 100 yard agg. and was runner-up in the NMC agg., is also a rela-

(Continued on Page Twelve)

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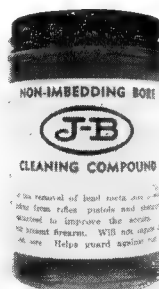
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BENCH REST MATCH REPORTS

tively new competitor who placed in the "Top-Twenty" at the National in Tulsa last year. It certainly wasn't "Old Timers" night at Kansas City on June 8th.

The high ranking aggregates

	100 yd	200yd	NMC
Gary Cunningham	.405	.4585	.4317
Bob Stultz	.405	.4955	.4502
Dixon Herman	.428	.4835	.4557
"Bud" Carden	.462	.4525	.4572
John Mayer	.384	1st)	

SOUTHBORO, MASSACHUSETTS

Fifteen shooters from five states fired five 5-shot and five 10-shot matches, all at 100 yards, in near perfect shooting conditions at the Southboro Rod and Gun Club range on June 16th.

Ed Shilen won the 10-match by a comfortable margin with his .3760 inch average. Ed shot his biggest groups in the 5-shot matches, but had two real small ones to balance them. His 10-shot groups measured .315, .345, .360, .385 and .310 inch.

Bob Stinehour shot consistently well all the way, having only one group over half-inch, to win the silver medal with his .4170" aggregate.

Alvin Rosenfield, Bloomfield, Conn. won the 3rd place bronze medal with his .4396" aggregate. Rosenfield also lowered the Southboro range record for 5 shots at 100 yards with his .126" group in the fourth match.

WAPWALLOPEN, PENNSYLVANIA

Forty-five individuals competed in the Unrestricted and Heavy Varmint class matches on the Council Cup Rifle Range June 22nd and 23rd. Thirty-one shot the Unrestricted rifles, seven in Open and twenty-four in Limited (sand-bag) class. Sixteen shot the Heavy Varmint class matches. The Unrestricted class matches constituted the Pennsylvania State Championship, and Homer Culver, Silver Spring, Maryland, won that title. Host Bob Hart did not shoot the 100 yard matches on Saturday but shot the 200 yard matches on Sunday with his .308 rifle and won that aggregate by a decisive margin.

Peter Horowitz, Westwood, N. J. made a grand-slam win of the Heavy Varmint class aggregates. His grand aggregate of .4422 was .0955 MOA smaller than lagging runner-up Joe Stearns, another N. J. resident.

Weather for the 100 yard matches on Saturday was clear but very windy. Sunday was also bright and clear, not so windy but the mirage was very heavy at times.

The high ranking aggregates were:

Unrestricted Class

	100 yd	200 yd	NMC
L-Homer Culver	.4524	.6999	.5761
L-Ralph Stolle	.6702	.5105	.5903
L-Ed Shilen	.5990	.5973	.5981
L-Paul Gottschall	.5700	.7123	.6411
O-Clyde Yockey	.6692	.6195	.6443

(L-Limited, O-Open)

Heavy Varmint Class

Peter Horowitz	.4660	.4184	.4422
Joe Stearns	.5002	.5753	.5377
Arnold Banker	.6306	.4901	.5603
John C. Sanborn	.5040	.6536	.5788
Omar Rinehart	.5936	.6322	.6079

TULSA, OKLAHOMA

Excepting the National Championships, the Tulsa Club's registered night shoot on June 22 drew the largest entry (37 shoot-

ers) to ever compete in their matches. There were 15 entries in Unrestricted class, 17 in Varmint class and 6 in Sporter class.

It is reported that there was considerable wind, quite steady as to direction but very variable in velocity. The high ranking aggregates were:

Unrestricted Rifle

	100 yd	200 yd	NMC
Horace Powers	.4204	.4683	.4443
Dave Whittington	.4560	.6526	.5543
L. F. Carden	.5012	.6727	.5869
Henry Barton	.4524	.7765	.6144

Varmint Class

Bill Benneet, Jr.	.5264	.6914	.6089
Tom Gillman	.5412	.7184	.6298
A. W. Ham	.5280	.7432	.6356
Joan Morgan	.4359	(1st)	
Marshall Johnson		.6903	(1st)

Sporter Class

Tom Gillman	.7180	.6859	.7019
T. W. Wiggins	.6678	.9672	.8175
Paul Fowler	.8056	1.0180	.9118

EASTON, OHIO

When the statistics had been tabulated for the Ohio Championship in the unrestricted class they showed that Cline Deere and Irv Potter, the two gentlemen from southern Ohio, had the situation well in hand. Both were shooting "woodless" stocked rifles. Mr. Deere used a Mauser action with a Hart barrel chambered for the .308 Win. and scoped with a Unertl 24 x scope. Mr. Potter used a Hart barreled Weber action chambered for the .222½ with a 30x Unertl scope.

200 yd 100 yd NMC

Cline Deere	.4645	.3882	.4263
Irv. Potter	.4752	.4438	.4595

The new Ohio Champion in the heavy varmint class is the well known and always consistent competitor, Omar Rinehart. The runner up is the equally famous Paul Gottschall. Rinehart was shooting a Hart barreled Remington action chambered for the Wasp. Gottschall used a Hart barreled Shilen action chambered for the .222½.

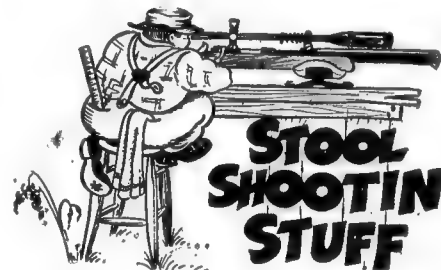
200 yd 100 yd NMC

Omar Rinehart	.4926	.3358	.4142
Paul Gottschall	.5868	.2956	.4412

On Saturday the wind and mirage made it necessary for the shooters to be on the alert at all times. On Sunday it was windless but a high mirage made good "doping" necessary. On Sunday afternoon, Paul Gottschall had it "figured" real well as he won four firsts in the five 5 shot matches at 100 yds. in the heavy varmint class.

Nelson Berger

Chippewa Rifle Club, Inc.



Dear Phil:

Isn't life a funny thing. We plan all winter long on things we are going to do the following summer and it has been my experience that only a small portion of the things we plan are actually accomplished. These thoughts are going through my mind as I read the ads and announcements of the National Varmint and Sporter matches coming up at St. Louis on August 9th, 10th and 11th. It's a long hot ride to those matches for Merrie and me but in spite of the fact that my winter plans for having a couple of good guns to shoot at those matches have not been fulfilled, I think I will go just the same and do the best I can with what is



Dr. Sam Nadler, New Orleans, La., a relatively new NBRSA member but an enthusiastic promoter of benchrest shooting in his area and already a very capable competitor. At the Texas State Matches in San Angelo in May, Dr. Nadler won the Heavy Varmint Rifle class grand aggregate with a new range record .443 MOA. The picture was taken at the San Angelo range. In the background is Col. T. J. Jackson, who was runner-up in the Varmint class grand aggregate with .552 MOA.

available, I am sure there is a lot of pleasure to be derived from just meeting and talking with the other shooters who will be there.

Colonel Townsend Whelan was keenly interested in benchrest shooting and took an active part in its revival in the 40's and early 50s, and it is nice that they named the range in his memory. I don't think he would have approved of the high powered target type scopes on sporter rifles and perhaps some of the other tendencies that are showing up and incorporated in the guns for almost the exclusive purpose of making them win at a highly specialized type of shooting. I can't really believe that many of the shooters would take such rifles on a hunting trip where presumably a sporting rifle is used and consider that they were properly prepared for taking game. The survey which we took seemed to indicate that 10X was about the maximum that we should authorize for a scope and that a rifle shooting a real sporting cartridge with wallop enough to down game under average conditions and a rifle of such weight that a man could reasonably carry for a long day were the features which we should consider.

Colonel Whelan long ago tried hard to get the shooters to work toward the practical field rifle and there were several of us who many years ago recognized the appeal that varmint and sporter rifles would have to competitive shooters, and through the improvement of such rifles, we would be doing a great service to all. This development has taken place to a limited extent but only a small fraction of the potential that exists. I regret this trend and I can't develop any real enthusiasm for a 6 m/m on a tiny case even though I have a lot of dollars invested in one and will probably show up at one of the shoots to try it out. If everybody else is going to be shooting big scopes, I consider that my B & L's that can be de-powered down to 6X are more practical than a scope that can only be used at the high power. Even though I seem to be in the minority with these thoughts, I am sure they are in the minds of others, and I am reminded of a letter I got several months ago from War-

ren Page who has had the advantage of coming in contact with more benchrest shooters, hunters and sportsmen than any other member of our organization that I can think of at this moment. I am sure he would not object to my quoting some of the paragraphs from his letter:

"I've had a bit of correspondence recently with Al Walter, largely based on the PS reports of the decisions during the annual meeting in Tulsa. I don't know how you stand on such matters, but I personally am quite dismayed by the revision of the scope-power rules to permit the use of any power scopes (which is another way of saying the same glass) on heavy varmint, light varmint, and sporter rifles. It seems to me, since at this stage the weight rules, etc., already have set up a situation wherein most people are using the same rifle as a light varmint and as a sporter, that this permission of use of the same X glass all the way through will further accelerate the abandonment of one of those three classes. And since the sporter as we now define it is not a sporter at all, but a kind of light varmint rifle, any real sporter as such will be abandoned. Since we established the sporter category as a means of interesting Joe Shooter in bench work we will have come full circle and defeated our own ends. I think the sporter should be a real sporter in every sense of weight, caliber, sights, and magazine, not only for the reason suggested in the last sentence above but also because by preserving it as such we'll be in a position to apply past experience to the development of super accurate true sporters. I am probably a voice crying in the wilderness but that's the way I feel."

Sincerely

(Warren Page)"

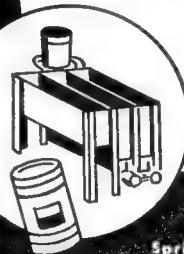
I have never shot at the South Creek Rod and Gun Club range at Fassett, Pennsylvania but I look forward to going there this weekend to the Eastern Region Varmint and Sporter matches. I know the competition will be very keen and I'll prob-

(Continued on Page Fourteen)

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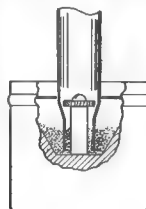
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(Continued from Page Thirteen)

ably suffer a lot from lack of familiarity with the range. I'll be trying my best to compete with fellows from that area who are good shooters at any range. Most of them are dyed-in-the-wool varmint shooters who carry on their enthusiasm to the extent of having matches even in the dead of winter. Once in a while around this area, my dog will locate a woodchuck but up there, it is a serious business and pleasure enjoyed by many, and their rifles don't sit in a rack or corner as steadily as mine.

Make no mistake about it—there is a lot of advantage in knowing a range and having a lot of competitive practice. I answer a lot of correspondence throughout the month and I always try to encourage new shooters to get into competition as quickly as possible. This brings them in contact with other shooters and their methods and gives them a chance to analyze their own techniques and to estimate the worth of the techniques used by their competitors. It is a silly mistake to think that merely having a gun like their competitor will get them to the top of the list. There are a lot of fellows shooting guns which should be changed and many who outpass the performance of their weapon with their shooting ability. They should get a new and better gun but a great proportion of the guns on the line do better than the man who shoots them and I don't hesitate for a minute to say that if the chaps who are usually at the top of the list exchanged guns with those usually in the middle of the list, the standing of the shooters would probably change little. This could be true because those fellows who stand at the top of the list are very meticulous in everything that they do and have learned to judge conditions and improve their technique. When the middle of the list boys improve, we see the condition which is often noted these days where the spread between the first of the top twenty and the last is very small.

Spectacular breakthroughs infrequently occur in the benchrest shooting game although the outsider may not recognize this fact. For instance, many people get the impression because a 30 caliber rifle won the Nationals last year there is a breakthrough in the 30 caliber direction. To some extent this is true as far as that caliber is concerned and when the conditions are real rough, such a caliber pays off in dividends that are in proportion to the ability of the shooter and his experience with that caliber. The fellows who are shooting them continue to do so to build up a backlog of experience with such a rifle and therefore they are ready to come to the front when a particular situation arises that makes that caliber a wise choice. The need for uniform wall thickness jackets has been clearly recognized for a dozen years. Everybody knows that a bullet will shoot better if it is better balanced so there is no breakthrough as far as that is concerned and no matter how it is arrived at—whether you sort them by quality, by weight or by measurement, you are heading in the right direction. The little lathe device developed by Paul Gottschall was merely a mechanical breakthrough that made it possible for him and other shooters to use jackets of non-uniform wall thickness by turning the interior with considerable accuracy, thus improving the balance of the jacket and resultant bullet. A wrong guess of the mirage with a bullet made from such jackets gets you out of the group just as far and, of course, they drift just as far in the wind.

We are about to witness a new primer from Remington which will be made to stand better the high pressure of cartridges using the small primer. I am sure I can recall Mike Walker talking about the need for such a primer at least five years ago and although I would not consider that such a primer which is now being tested is

a breakthrough, I do call it a decided improvement and will probably make possible higher velocities or the use of heavier bullets in the entire family of the .222 line. It is not very pleasant to have pieces of primer and gas bouncing back toward your eye or in the mechanism of your bolt and receiver.

I have been doing a lot of chronographing with an Avtron lately in an effort to try to find out what makes the biggest variation in velocity and presumably in group size, too. Poorly balanced bullets seem to give just about the same velocities in a given powder load and chamber as do well balanced bullets in the same guns. Obviously, the difference in the group size would be apparent but assuming you start with real well balanced bullets in a good chamber in a rifle of known accuracy, then there must be an advantage to uniform velocity which must be closely tied up with uniform vibration. Dan Hufnail told me that in some tests that he ran, some now obsolete primers had seemed to give a more uniform velocity. There's not much point chasing around to find obsolete things so I stuck pretty closely to new products which are readily available on the market. After I sorted my cases pretty carefully, I came down to very minor variances of velocity when I was using my best bullets and powder charges which were weighed to within one pellet of uniformity. These variances in velocity were often less than ten foot seconds and I like CCI Magnum primers pretty well in cases which call for the larger primer. Not only did they give me remarkable uniformity as well as accuracy but they gave me another feature that I am as much impressed with now as I was when these primers came on the market. They burned very clean, leaving a hardly perceptible ash in the primer pocket or on the necks of the cases. This clean burning characteristic, I think, is very important because undoubtedly case capacity changes as carbon builds up in the interior and a variation in case capacity means a variation in velocity. Another very important feature of the CCI No. 250 primer and its clean burning characteristic shows up in the bore of the barrel where I find very few and very seldom unburned pellets if the powder charge is anywhere near right. If the flash holes of cases are uniform, the powder charge is identical and the bullets of the same weight and size, one would expect that all primers would indicate the same sign of pressure, especially as you approach the higher pressures. This is not true of some primer makes which in itself must indicate that either the metal in the primer cups varies in thickness or composition or that there is a lesser or greater amount of priming compound and in those makes of primers, I couldn't depend upon their appearance to guess whether the pressure was higher or lower. However, with the CCI's, especially in the CCI 250, I found that when I was varying conditions, I could look at the primer and before reading the chronograph, estimate quite accurately whether the velocities were higher or lower. The primers in a batch of cases were about as alike as they were before they were fired, whenever I kept to constant components.

One of the great advantages of seating bullets by hand pressure is that you can tell quite accurately what the neck tension on that bullet is and I found in the chronograph experiments that the variance in neck tension makes a lot of difference in the velocity variance. The detection of these differences in neck tension, of course, depends to a great extent on the uniformity of the bullet diameter and you would be surprised to note how much difference in bullet diameter you can find in some of the batches of commercial bullets. These differences in commercial bullets as far as weight and diameter is concerned are so great that no chronograph test could be depended upon unless the bullets are very

carefully checked and sorted by weight and diameter. Good custom bullets will vary less although perhaps the word "should" is proper rather than a flat assertion that all custom bullets would be uniform. I am pretty careful of the bullets I make but for chronographing work or shooting in very important matches I think it is advantageous to examine every bullet from every angle possible. The variation which exists in the jackets makes it impossible to reach absolute perfection and often the difference in the size or shape of the hole in the point will be enough to indicate a slight difference in weight. This difference in weight will not show up in normal target ranges. A difference in diameter should not exist in bullets properly made in good dies, when the maker conforms to the expanding up system and uniformly lubricates at the core seating stage.

Commercial bullets are getting better and better each day and I was impressed with the fact very forcibly when last month I received from Sierra some 30 caliber 110 grain M-1 Carbine bullets for testing. They were by no means intended to be for serious competition in benchrest work but they were very uniform little products and show how the gap is narrowing. This narrowed gap is more conspicuous than ever when you look at some of the target grade bullets made for match work.

Hornady has been making carbine bullets for some time and I found their's to be a very deadly little bullet too; however, I am not speaking of the experience I have had using them in carbines as I don't believe I have shot one since the middle periods of World War II.

I enjoyed the June issue very much. It was good to see a picture of a couple of real riflemen in action on the cover and I particularly noted that the rifles and scopes, too, weren't far different from what we are using on the benches.

I liked that chronograph information on the big 30 caliber jobs which Colonel Parsons submitted and it is that kind of information that makes our magazine so treasured. I should think you would be getting calls for some extra copies from fellows who would like to tear out that page and clip with their most important shooting information.

We don't often get articles from our Canadian friends but I took pleasure in going over quite carefully the article by Mr. Farquharson. He is obviously a man of considerable experience and with some of his comments, I must agree. I can see that he wants shooting to continue for the safety of his country and ours, and that he wants it to be a real serious activity and not a "mamby-pamby" spectator amusing sport. I think the matches which he suggests could be quite interesting but I couldn't agree with him on some points.

I am fully aware that the production appearing from the Arms factories needs improvement as far as quality of workmanship is concerned but I'm not so sure that the design factor is as bad as he would make it out to be. I think it would be unwise to sell some of those factory jobs short as far as accuracy is concerned and how could you possibly expect at today's labor prices to put enough into a gun to take all of the bugs out of it. Not only is the cost of the labor an important factor, but the control of the labor is a serious problem. The expert workman is fading from the picture in this country and in every other. I went to a lot of gunshops in Europe this Spring and I hardly saw a decent rifle stocking job that was done in the last twenty years. Their expert workmen are passing on, too, and unlike our country, they don't have the money or the willingness to purchase arms such as are made by some of our better American gunsmiths. The Mauser action is a real good one and I am very

fond of it and use it a lot in hunting rifles. I must say, though, that the Remington which he complained about as well as its predecessors have established a very enviable position in the accuracy field. True, they are probably restocked in many cases and sometimes rebarrelled, but the dependability of the action as I found it is hard to criticize, and I hear of some mighty good targets that are being made from rifles coming off their 40X line.

I know quite a few fellows with African hunting experience. Some of them are writers, and many connected with the Arms industry. I was amused at the inference that Mr. Farquharson made that the girls in those far off hunting lands were a possible means of attraction to those hunters. It would seem to me that a man of Mr. Farquharson's worldliness would recognize that wherever one goes, there are girls. Most of our big cities have them, about half of them came from country towns, the cities aren't far apart or costly to reach. Last time I was in either England or Canada, there were quite a few girls there, too.

I mentioned Warren Page earlier in the article. He is a gun writer of some standing and I thoroughly enjoy the words he writes, and the conversations I have with him, but I warn Mr. Farquharson not to sell him short when it comes to shooting. He'll be at the National Varmint matches and the National Bench rest matches and I'll expect to see him as I have in years past, step up there in the contestant's position and come awful close to the top, competing with fellows who have been assiduously practicing all year long, and attending match after match. I don't class Mike Walker as a gun writer nor as a cost accountant gun designer but he, like Warren Page, knows how to shoot guns and when the time comes for contributions to the pot for the suggested shooting match, I'll chip in and put up a pretty good side bet on either of those two shooters or a dozen others that I know of. Due to the fact that Merrie is writing this letter, I'll have to say that I am only looking at the girls but I sure would like to see that competition that Mr. Farquharson suggests among the shooters. I have heard it said that controversial articles mean good business for a magazine. I enjoyed that one and I could "controve" more, if space would permit. I don't doubt but what you will hear from others with some of their opinions.

Cordially yours,

Crest Stahlclutter

LONG RANGE BENCHREST SHOOTING

A LETTER:

Dear Phil:

I just got to read Fred Hallberg's article on long range bench rest shooting in the May issue. (Four readers of P. S. in my family.) To his statements to the effect that short ranges cover a multitude of ballistic sins and that 1000 yard and 600 yard bench rest competition would be of great value—Amen, Amen!

However, it is respectfully submitted that he either does not mention, or minimizes the major difficulties involved in making organized long range bench rest shooting a fact.

After planting the inference that establishing, equipping, maintaining, AND RETAINING a 1000 yard range is not a very expensive undertaking of a high order of magnitude (if anyone were interested, this writer could summarize about this one in twenty or thirty thousand words), he goes directly to the guts of the problem in stating "too many people want to shoot at the shorter distances" and, just as directly, leaves them.

If you will remember, you and I had


a short correspondence several years ago about having a 1000 yard bench shoot at Karner Range, Albany County, N. Y. and you stated, in effect, that little interest would be evinced by those active in competitive bench rest shooting. Casual conversations here and there bear you out. If there would be a better than 50-50 chance that 36 or more customers would show up at a 1000 yard bench rest tournament, and any one of a few organizations around Albany could be convinced of it, such a tournament would be put on. As it stands now, it would take a lot of education and "missionary" work to get out more than a few dedicated experimenters and a sprinkling of hot long range competitors who would probably just as soon shoot in prone matches. If I'm wrong—and I hope I am—could those who would be potentially interested be persuaded to write to P. S. and indicate their willingness to compete?

Assuming a field of competitors were assured, the mechanical difficulties of conducting matches at ranges other than the longest which the range provided would likely be considerable. Permanent benches could be erected behind the firing point for the longest range in nearly all cases, and where intermediate firing points are raised at least 30 inches, permanent benches behind them would not interfere with firing at longer ranges. However, many ranges would require either that pits for benches be provided or that portable benches of a stiffer design than any yet devised be built. The latter course would probably require digging a trench across the firing point, filling it with concrete and embedding anchors therein, whereby a piece of rod could be lifted and a turnbuckle engaged in each bench and anchor, and a ½ ton or so of tension applied.

It only takes one wild shot over a backstop to send \$50,000 worth of rifle range down the drain. Even inept tyros, if any showed up at a 1000 yard prone shoot, in itself an unlikely happenstance, would be doped close enough on by tournament sponsor personnel so that they would be unlikely to constitute a danger. This might not be the case with some much more experienced shooters using unconventional equipment whose long range elevations neither they nor anyone else knew much about.

It is probable that new evaluation criteria for 1000 yard bench rest matches should be utilized unless they are fired at night. Vertical dispersion is, of course, much more significant than horizontal dispersion or overall group size as an index of excellence and uniformity of equipment and components at long range. The horizontal dispersion is, unless conditions are unusually good, more an inverse function of the doping ability of the shooter than of any other factor. Long range groups frequently tend to be made up of a tight cluster with one or more flyers or semi-flyers. This would indicate the use of a scoring target, and if the commendable practice of continuing the development of something potentially good until the bugs are out of it is to be encouraged, it should have scoring rings with progressively larger increments as the shot values diminish. (Incidentally, the Value Inversely Proportional to Error Target;—i. e. 12" ten-ring and each other ring 120" divided by the value of shot therein—is going to be tried in N. R. A. registered competition at Karner on the last week-end in September with \$1000.00 riding on a score of 197 or higher.) It would be the writer's suggestion that prize money be split four ways in 1000 yard bench rest matches; (a) overall group size, (b) vertical dispersion, (c) horizontal dispersion and (d) high score. Also, since it is comparatively easy to determine the closest shot to center in 1000 yard matches, the shooter firing it might get paid off to the benefit of all concerned.

10-X



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If conventional matches and evaluation on the basis of group size only are to be tournament conditions, 1000 yard bench rest matches should be fired at night to eliminate the wind component in-so-far as it is possible to do so. It goes without saying that lighting a hundred feet of butts with power a couple of thousand feet away and all the insects within a half mile radius interested in the proceedings also presents difficulties.

I do not anticipate undue marking or scoring difficulties. Individual targets could be pasted to thin corrugated paper box-board and the assembly tacked to strips nailed across "B" or "C" target frames. They could be marked in the conventional manner with 2½" spotters. I have never been able to detect any visible shift in a bullet hole center before and after spotting when the cloth is sound, and do not anticipate that the situation would be different in corrugated board, provided reasonable care is taken to pull the spotter straight out and that measurements are taken over plugs the same diameter in the target as that of the "swell" of the spotter spindles—about .315". If 2½" spotter discs would be too big at 600 yards it's easy enough to punch 1" centers out of them and use those.

It will probably be found that rifles should be classed in respect to power for long range bench rest matches. A suggested convenient line of demarcation would be an ounce a round. Most .30-06 Match loads and most big 6.5's will make this weight. Parenthetically, a weight-of-loaded-round limitation might stimulate long indicated and long overdue research into aluminum alloy or titanium alloy cartridge cases. Why our policy-making Service people break their necks and spend millions to eliminate an often useful pound of weight from the rifle and at the same time remain

(Continued on Page Sixteen)

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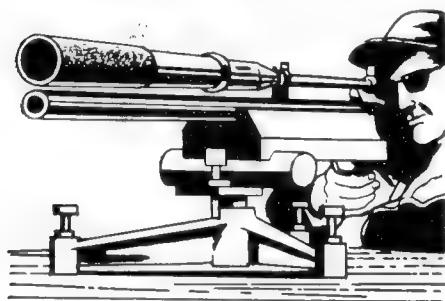
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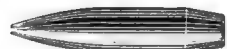


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Letters

(Continued from Page Fifteen)

indifferent to two pounds of surplus and
useless weight on ammunition transcends all
logical comprehension.

To summarize: (a) If bench rest shoot-
ers generally want long range bench rest
tournaments, let them say so, and sponsors
give them to them; (b) Tournament condi-
tions will necessarily be quite different from
those usually in effect for 100 and 200 yard
shoots; (c) It's going to cost a lot more
money per shot.

Dermot C. Reilly
445 Western Avenue
Albany 3, New York

WE CAN BECOME A NATION OF RIFLEMEN!

(Continued from Page Nine)

during the early 1930s. Regardless of
where he might be, a shooter will always
look around for a place to shoot and I have
learned that places can usually be found
even in countries where restrictions on per-
sonal ownership of arms are heavy. But
the range I located in Brussels was out of
this world. Even today we have nothing in
the United States that can approach it and
it was built sometime prior to World War
I—almost 70 years ago.

My wife and I drove up in our model
"A" Ford to an address that had been fur-
nished us but when we got there we felt
certain a mistake had been made in our di-
rections. Mistakes were not uncommon
since at that time we knew little French and
no Flemish. The front of the building pre-
sented more the appearance of a Union
Station in a large midwest town than it did
a rifle range. A massive structure of stone
and brick, we entered through a large door-
way and were greeted by a pleasant mili-
tary sergeant who directed us to a registra-
tion window. There we paid a small fee,
the equivalent of about 50 cents. I had
my own .30 caliber rifle and ammunition
with me and when the registrar had satis-
fied himself that I was sufficiently experi-
enced, I was assigned a firing point and
directed to the 300 meter range.

Now let me tell you something about
that establishment because it was much
more than an ordinary international type
range and it contained elements that can
be applied in the United States. It was a
natural development of range facilities for
heavily populated areas. Large tall apart-
ment buildings could be seen on all sides
of it. It was a permanent installation and
not a type constructed hastily for a particu-
lar Olympic or international meet. The
fact that the last such match fired in Bel-
gium was held on the polo grounds at Ant-
werp rather than in Brussels confirms that
statement.

The Brussels range contained 300
meter, 50 meter, and shorter pistol ranges.
It even contained a shotgun range which I
did not see and cannot describe. In addi-
tion to standard target systems, the rifle
ranges were equipped with all sorts of mov-
ing targets such as running deer and bounc-
ing bunnies. The pistol range was equip-
ped with surprise targets that popped into
view from all kinds of angles at irregular
intervals and different sequences. The
only place I had ever seen anything like it
was at the police pistol range in Shanghai.

The building contained a small lunch
counter where you could get coffee and a
snack (beer, too) and it contained a number
of large rooms or halls where various civil-
ian clubs that used the range could hold
their meetings and social gatherings. I
was told that other large rooms (which I did
not see) were assigned to various military
reserve outfits. In other words, this was a
government installation built for use by both
the reserve forces and the general public.

If a citizen had a desire to shoot, he
could go to this range, pay his small fee

and draw either a military or a .22 caliber
rifle. Or he could bring his own equip-
ment. If he was a new man who had not
yet properly qualified, he was assigned to a
beginners' section under the tutelage of an
instructor—usually a military man. Records
were kept of his progress. If and when he
finally qualified both as to safety and
shooting ability, records were so marked
and from that time on he was assigned to
the regular range. Each five positions on
the regular range reported to and was un-
der the control of a sergeant overseer but,
as long as you were doing your stuff prop-
erly, he stayed in the background as much as
possible. On the other hand, if there was
something you wanted or required he did
what he could to help you out.

Now let us return to the United States.
We need ranges, population is growing,
land is becoming scarce and expensive.
Ranges can not be built and financed like
baseball stadiums because shooting is not
a spectator sport. If we are to continue to
depend entirely on civilian support, our
ranges, with few exceptions, will remain
small, poor, and far between. Permanence
and a necessary basic uniformity will be
lacking and such uniformity and perman-
ence is just as necessary to range design
as it is in a baseball diamond or a football
stadium. A range built in San Francisco
should not be too different from one built
in Baltimore or in Minneapolis.

It so happens that at the present time
new reserve installations are being built
throughout the country. Most are small
and cramped and seem to reject the possi-
bility that they might be designed to serve
other purposes also. Our old armories at
one time served many varied activities and
have been and are being used for balls, ex-
hibitions, lectures, concerts, athletic events,
etc. Many such structures enjoyed heavy
traffic and became prominent fixtures in
our communities.

I wonder how much lobbying it would
take to induce the Department of Defence
to incorporate in their reserve center designs
a system of ranges similar to that which I
so briefly described above where our popu-
lace as a whole could learn about matters of
military interest. If we could get the De-
fense Department to do that, reserve centers
would become truly such in deed as well as
in name. With one such installation in
each urban center, shooting would become
at least as popular as any other evening or
daytime activity currently available to the
citizen.

Is this a pipe dream or something full
of theory and not practical? Some ten or
twelve years ago I broached this subject to
one of our senators and he thought the idea
good enough for serious consideration. But
the man was not a shooter and he needed
some pictures to better illustrate the idea of
setting up such protected ranges in our ur-
ban centers. I tried my damndest to obtain
such pictures from every possible source in-
cluding the NRA but all I drew was a blank
and there the matter died.

Many of our present armories, post of-
fices, and other public buildings are the re-
sult of make-work projects developed dur-
ing the last depression. We have by no
means overcome the possibility of similar
situations in the future and if we start this
year to sell the general idea of reserve con-
trolled protected ranges, we will have them
one year sooner than if we started next year.
Somewhere, there will be someone who will
go to bat for us. It has happened in
Europe and it will happen here. The real
question is how soon.

Now, gentlemen, my neck is way out.
In this short article I have only hinted at
the possibilities. Sharpen the blade suffic-
iently and it won't hurt too much. But
when you do, please also suggest a better
idea than that which I have offered. That
is a fair request.

(To be continued)

LETTERS

SETTING TARGETS AFIRE:

Dear Mr. Teachout:

I am not a regular competitor in the benchrest matches so often referred to in your magazine, however, I am a benchrest "Sympathizer." I shoot nearly 12,000 rounds of handloaded centerfire ammunition each year. Some for my own personal pleasure and a great deal more for customers who are desirous of getting their rifle's "diet" worked out for them.

I am somewhat of a "bug" on Powder! I use and work with 84 different powders. All of the IMR Series, Hodgdon and more German powders than the average shooter is aware exists. In addition I have been using the complete Norma line and several pure salvage types from military ammunition. I have four Barnes Supreme Magnums on Brevex Magnum actions for using the different types of slow burners; these requiring the tremendously heavy Barnes line of bullets.

On May 21, 1963 I was shooting at the local range where I can be found four days a week when I had an unusual occurrence happen to me. All the below information was witnessed by two people. The weapon was a rebored .22 Var. to 6m/.250 Ackley Improved with 28° shoulder slope 25 inch Gebby barrel by G. R. Douglas with 1 in 11.4 twist. It is throated with standard throat for Sierra bullets. No special throating such as specific bevel to rear edge of lands for a certain bullet, no barrel block. Just an average shooter's varmint rifle.

I do not mean to appear solicitous furnishing this information. It is for you to do with as you see fit. I feel that here is an occurrence that is worth hearing about. The specific point here is the inherent danger that is present in this shooting game even though the most careful technique is never once deviated from.

I started the day's shooting with 20 cases loaded with Salvage H-4895 powder. I had Super-X brass (250 Sav.), CCI 250 Magnum primers, 39.70 grains H-4895, 75 grain Sierra H. P. B. R. bullets seated .230; overall cartridge length was 2-21/32 inch. I fired three of this charge to foul the barrel. The next four shot were for group on the standard 100 yard NBRSA target; all four shots cut in 3/8 inch. I fired the fifth shot and it went to the left about 1/8 inch and when I looked through the Unertl to get a good look at the overall group my target was on fire. I ran the 100 yards to get my target just in time.

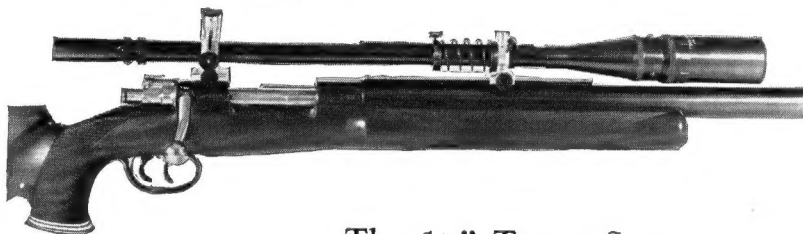
I returned to the bench and prepared to shoot another group. I fired two shots and the third set my target on fire again. Once more I made the trip to the target frame to get my target. In both instances the "thermal" bullet cut 1/8 inch to the left of the group center.

The temperature was 60° F., sky was overcast as awaiting rain, it was 9:00 A. M., the wind was, according to my range flag, moving at about 3 mph from 6 o'clock. The barrel was never allowed to heat to any extent, each shot was spaced about 45 seconds apart. The primers were new to me and new to my dealer. He had them in stock only two days and I had them two more. My powder storage is a large icebox with very heavy insulation. I maintain a very good vigilance on my powder. It is constantly rotated. This particular powder was not more than two months in my possession and it was ordered for me and picked up the same day it was delivered to my supplier. The temperature in my icebox is 68° constant, it will vary less than three degrees, summer and winter. I have been using this box for 6 years and with no trouble whatsoever.

Upon experiencing this phenomenon I walked up to the store on the shooting range (Continued on Page Eighteen)

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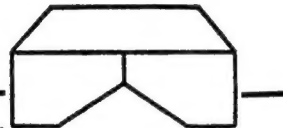
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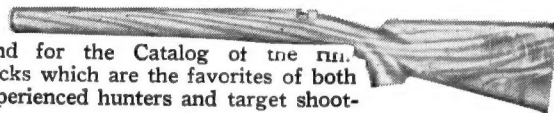
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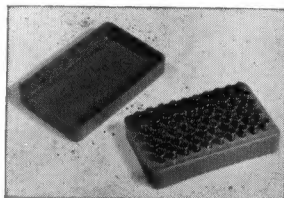
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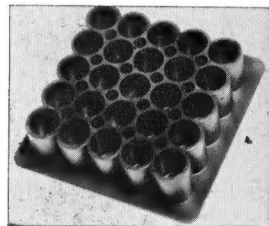
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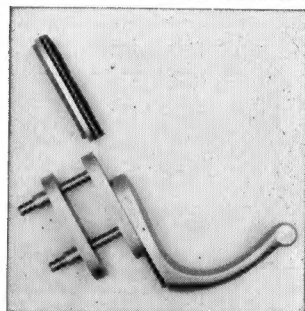
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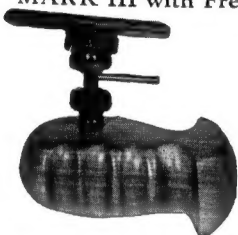
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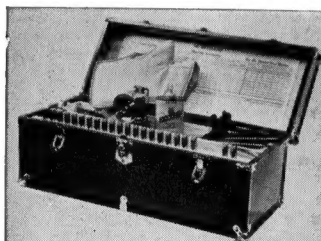
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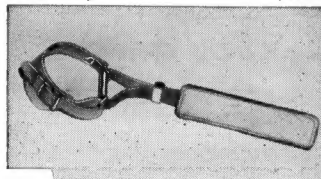
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LETTERS

(Continued from Page Seventeen)

and purchased another can of H-4895. I loaded 5 cartridges and did not have this happen. Accuracy was not as good (5 shots in ½ inch). Prior to loading the 5 test cartridges I checked the bore and it was as clean after these eleven shots as if it had never been fired. I used these same five cases and loaded them with my original H-4895 and the first shot set the target on fire. I put up 4 targets at 100 yards and with the remaining four cartridges placed one shot on each of them. Targets 1, 2 and 4 were set on fire as before and target #3 had a ring around the hole like a scorch.

I also carry a very heavy barreled .243 Winchester with me. It is a 1½" straight cylinder barrel, 28 inches long, 1 in 10" twist. It is a real shooter for a factory cartridge of this size, quite often 10 shots in 5/16 inch. Not a bench gun but my field varmint. It is mounted with a Unertl 24X with a barrel block and my stock. The scope is mounted 1 59/64" above center of bore.

I used five control cases of this .243 and loaded them with this H-4895 and 75 grain Sierra bullets. Super-Speed brass, CCI 200 primers, 41.4 grains of this H-4895, 75 grain Sierra H. P. B. R. bullets, seated .240" or about overall cartridge length of 2½ inch. Cold barrel, no oil—I patched it before shooting to clean it out. I fired three shots at 100 yards and third shot set the target afire at 100 yards. THE POWDER IS IT.

I have communicated with P. O. Ackley regarding this fact and he is not aware of having heard of this happening before. He assured me that if he could turn up some information he would be prompted to inform me of same.

The report of this powder when the cartridge is discharged is tremendously loud for only 39.70 grains. A 6mm bore is a loud one but this beyond all expectations. I poured 64.5 grains of this powder behind a 125 grain Sierra SP Spitzer and CCI 250 primer, and 64.5 grains of 3031, CCI 250 primers, same bullet, 24 inch Ackley barrel, and the report was like setting a 20mm cannon off in your front room. The muzzle flash is not excessive, bystanders said that there was no difference in the flash between this H-4895 and standard canister powders.

This charge is not excessive in this small case either. I have used 39.7 to 41.8 grains behind the 75 grain Sierra bullet already and pressures are high but still quite safe. One particular odd thing about this load in this case is that the primers were concave rather than flattened out against the bolt face as one would expect. I checked 12 or 15 fired cases and the primers were from .004 to .008 lower in the center, not including the firing pin indent, than at the edges of the primer neck to the case edge around the primer pocket. Three years ago I had a .300 C. C. C. that with 84.2 grains of 4350 and 172 grain Taper Heel G. I. Match bullets would do the same thing.

The edge of the mouth of these cases from this "little 6mm" was blued with heat from firing. They were being annealed in the chamber upon firing.

When I decapped these cases, the primer pocket had no residue in it from the mixture contained in the primer. They were cleaned as if I had cleaned them already. I have had some loads with several different primers leave the primer pocket very free from residue but never that clean.

I took 40 bullets from the same box that was setting my targets on fire and cut them in half with a jewelers saw and they were remarkably consistent in their jacket thickness from inside the hollow point to base for a production bullet.

D. L. Bogan
39 Clover Street
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PRIMERS

By G. W. P. Swenson

Fred Hallberg's article on Primers in the July, 1961 Precision Shooting was extremely interesting, but when I saw the article in the September issue, I had a vague feeling that something had been omitted. As is my custom in these cases I looked for literature on the subject, and finally found it in the lecture by W. B. Borland, to the Gun Makers' Ass'n, April 29th, 1967.

In 1892 Mr. Borland obtained English Patent No. 12,546 for a device to determine the energy of primers on explosion. This consisted of exploding the primer in a closed tube, cutting or crushing a lead slug, and determining the amount of energy from the amount of deformation.

Next step was to take photographs of the flames of the various primers, and it was then found that flames of different flanges showed up differently on the same photographic emulsion, and also that two different primers showing the same sized flame gave different pressure with the same powder. It was then necessary to determine the duration of the flame. Here he found that the period of duration of the flash varied between .0002 and .001 of a second. The primer giving the longest flash gave the lowest pressure with the same velocity. Finally, temperature of the flame was found by means of a thermocouple.

His conclusion was that the greatest proportion of the whole amount of the charge should explode under fairly considerable pressure, and it is the function of the primers to get this pressure up as quickly as possible. If the primer flame is not sufficiently energetic, a certain proportion of the powder charge is probably burnt under unsuitable conditions. If the flame is too energetic, then too high pressures are produced. It is safest to check in connection with ballistic trials to hit a happy mean.

I also took the opportunity of going into this matter with a primer specialist, who for reply showed me a series of photographs of primer flames, and challenged me to select the one which gave the strongest ignition. It turned out that the one with the smallest photographic flash gave ignition altogether too strong for ordinary powders.

The specialist further stated that the only method found acceptable over a long period of use was to test the primer with the actual powder with which it was to be used, by determining the lapse of time between fall of the firing pin and emergence of the bullet from the muzzle. When satisfactorily uniform results were obtained, the charge in the primer was cut by 20% and

the same test repeated. If there was any significant irregularity the compound would be rejected.

Weight of the primer compound is also not necessarily a reliable assessment of the strength of the primers. Although most have a weight of approximately .6 grains, R. W. S. and Norma primers in the rifle size have only about .43 grains of compound while Federal No. 215 have approximately .73 grains.

It would appear that the error in the Precision Shooting article was in working on flame only, whereas Mr. Borland stated that "It is not safe to dogmatize respecting the behaviour of experimental materials, as there are so many conditions of influence but . . . the four conditions, viz: energy, heating effect, shape and size of flame and above all duration of flame, cover practically all that requires to be determined.

(Editor's note: Mr. Swenson is a U. S. citizen who resides and works in England.)

"WHY DID I?"

By Ted Smith

When I look back now I am sure that my mother missed her calling. She should have been with the placement service of the International Humane Society. At a very early age I developed a great love for small puppies. I could never quite resist the urge to bring home any stray I happened to find. Mother never worried about little "Teddie" getting lost. Eventually I would tie a string around some pup's neck and he, with some inborn sense would lead me directly home. Mother never seemed to mind, secure in the knowledge that she could find a sucker to take it off her hands.

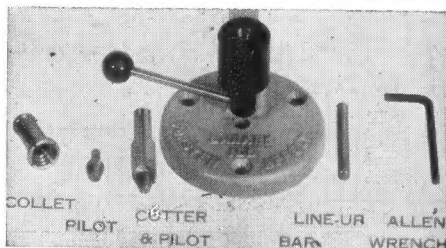
I remember one instance quite well where I had been given a pup, a really fine dog, the pick of the litter so to speak. As we came into the yard mother and father were working in the yard. Mom looked up and said, "What kind of a dog is that?" "It's a he," I reported. "Your mother means what breed of dog is it?" I knew what mother meant, she meant what kind of a dog was it. Males are much easier to place than females and experience had taught me that it better be a he. I was pretty secure in reporting that it was a he in that they were very seldom tipped up to verify my conclusions. Father however was not to be ignored and I stated proudly that this was a thoroughbred Setter. Pop, a true lover of horses, looked him over critically and reported, "Setter he may be, but with those legs he'll never be a thoroughbred."

Gradually this love of dogs, small pups that is, with sharp teeth and big appetites, gave way to a love of guns. They don't have to be genuine thoroughbreds, just guns will do. For some reason when I see one I want it. When I bring a new one home now it's friend wife I have to get it by, and unfortunately she knows quite a bit about guns, probably from the fact that she has to take two or three off the bed before she can go to sleep at night. Take the other day I brought a new, well used one home. "What kind of a gun is that?" she questioned. Experience has taught me that what she means is "How much did it cost." Experience has also taught me I better not lie about it. I have therefore developed a technique, which I practice in my spare time, of saying two-hundred and twenty-five dollars so it comes out like two dollars and twenty-five cents. It sounds real good in practice but somehow when I say it to her it always comes out sounding like two thousand two hundred and twenty-five.

It's really wonderful how wives take over where mothers leave off and assume the responsibilities of husbands who often seem more like little boys. I often wonder why she doesn't throw herself on the floor and beat on the carpet and scream out, "Why did I have to marry a shooter? Why couldn't he be just an ordinary husband who only drinks, and gambles and chases women?"

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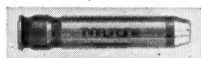


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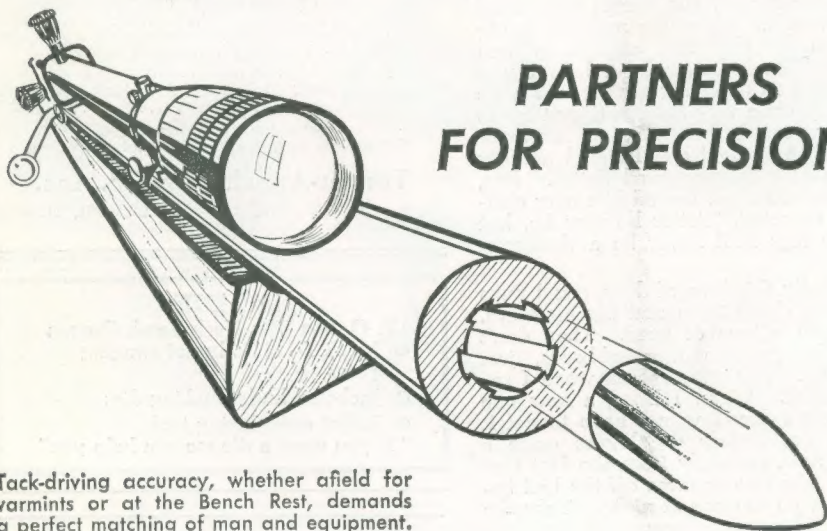
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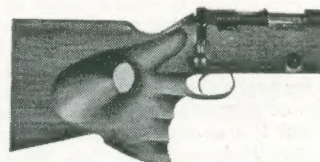
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